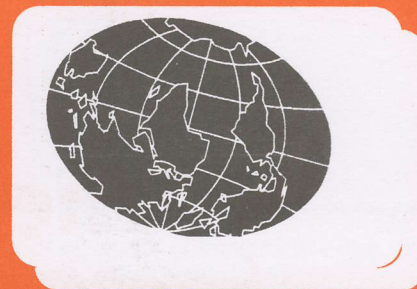


Bob Cooper's

JUNE 15 2007

# SatFACTS

MONTHLY



Reporting on "The World" of satellite television in the Pacific and Asia

## IN THIS ISSUE

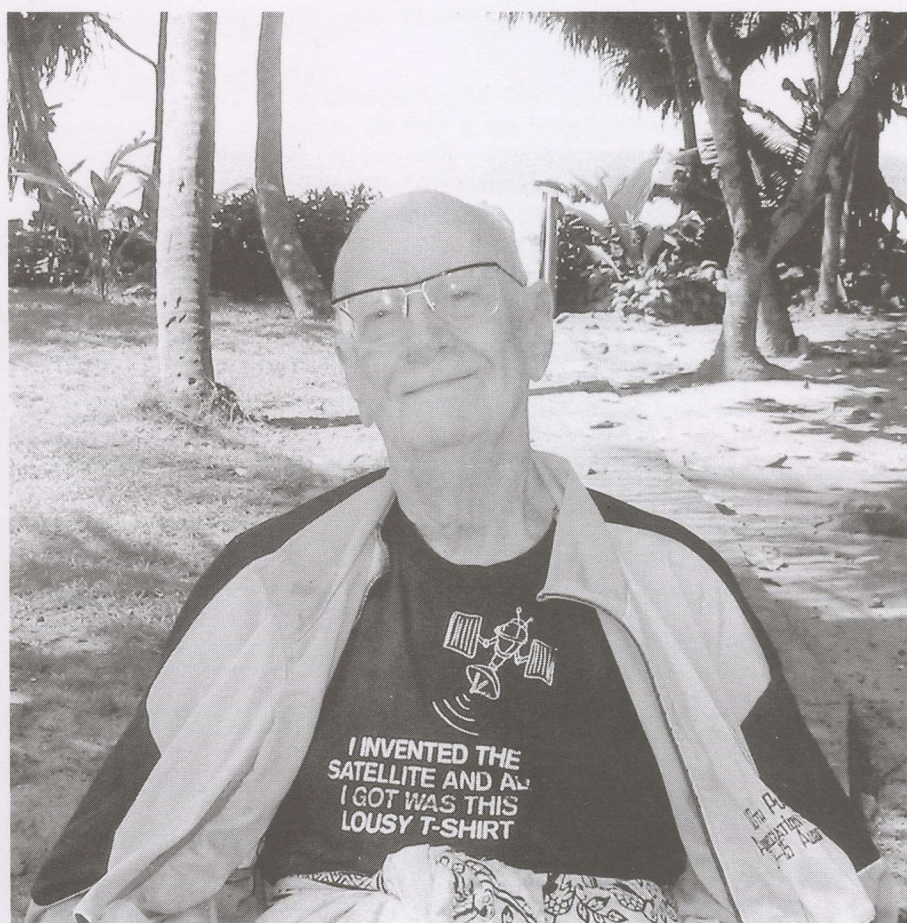
**SBE2007:**  
The show that  
you missed

**Freeview**  
receiver problems:  
True or hyped?

**The post**  
scrambling years  
in America

- ✓ Latest Programmer  
News
- ✓ Latest Hardware News
- ✓ #24 out of top 25!
- ✓ Observer Reports

Vol. 13 ♦ No. 153-4  
Price Per Copy:  
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**Sir Arthur C. Clarke -**  
**January 2007**





# The first approved freeview receiver is here

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Freeview™ 8-day programming guide

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For more information on the ZMX-7500 receiver  
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# SatFACTS MONTHLY

ISSN 1174-0779

is published 12 times each year (on or about the 15th of each month) by Far North Cablevision, Ltd.

This publication is dedicated to the premise that as we enter the 21st century, ancient 20th century notions concerning borders and boundaries no longer define a person's horizon. In the air, all around you, are microwave signals carrying messages of entertainment, information and education. These messages are available to anyone willing to install appropriate receiving equipment and, where applicable, pay a monthly or annual fee to receive the content of these messages in the privacy of their own home. Welcome to the 21st century - a world without borders, a world without boundaries.

Editor/Publisher  
Robert B. Cooper (ZL4AAA)  
Office Manager  
Gay V. Cooper (ZL1GG)

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Now year thirteen!

## Number 24 - out of 25

Twenty five years ago (1982), the satellite revolution was sweeping the world and surprise - it was not all about television. A bright newspaper man had been working on a project for several years - how to create a national (USA) newspaper that would appear simultaneously from coast-to-coast, border-to-border at the crack of dawn five days a week. This was a mechanical challenge requiring that one complete newspaper, laid out using that era computers, be passed off to six or ten or twenty separate printing presses geographically located so that between midnight and dawn each business day, the presses would roll cranking out identical copies in tens or hundreds of thousands which using local transport would appear at news-stands, motel room doors, street vendor satchels.

Satellite was the answer and USA Today was born. The rest, as is often said, "is history." USA Today rapidly became "The Nation's Newspaper" as 32 or 40 or 48 pages using innovative four colour processing appeared with identical copies for readers in Portland (Maine) and (Portland) Oregon. 'USA' found other innovative ways to ensure success - making distribution deals with tens of thousands of motels guaranteeing that when business travellers (perhaps the most important of the sub-groups reading a daily paper) were always waking to find today's copy hanging in a plastic sleeve on their doorknob. USA Today was the right idea, at the right time, just as the technology became available to implement the business plan. Hundreds of publications have followed this (satellite linked) pathway including most of the popular news-stand monthly magazines.

In the May 21 edition, USA Today selected "25 years of 'Eureka' moments" - with the explanation, "We're a nation of inventors in garages and corporate labs, creating gadgets and services that delight us and occasionally drive us crazy. USA Today chose inventions that changed our lives since 1982."

The twenty-five selected appear as follows:

(1) Cellphones, (2) Laptop computers, (3) BlackBerrys, (4) Debit Cards, (5) Caller ID, (6) DVDs, (7) Lithium rechargeable batteries, (8) iPods, (9) Pay at the pump, (10) Lettuce in a bag, (11) Digital cameras, (12) Doppler radar, (13) Flat-panel TVs, (14) Electronic tolls, (15) PowerPoint, (16) Microwave popcorn, (17) High-tech footwear, (18) Online stock trading, (19) BigBertha golf clubs, (20) Disposable contacts, (21) StairMaster, (22) TiVO, (23) Purell, (24) Home satellite TV, and (25) Karoke.

Satellite interconnection from a publisher to a printer is Economics 101A. Newsprint is sold by the ton, shipped by the cube and ton, and once printed into a product, distributed by the pound. Setting aside how one would ship six jillion tons of freshly printed newsprint from a printer in Maryland to distribution points in San Francisco overnight, why not simply use locally available newsprint rolls already sequestered in printing plants?

So here we are, #24, squeezed in with TiVO and a bacteria-fighting hand-body wipe. "The

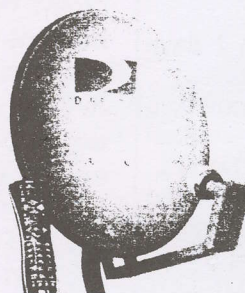


June 15, 2007



## 22 TiVo

The gadget is now a verb, with 4.4 million subscribers TiVo-ing their favorite TV shows. The digital device changed TV-viewing habits after the first TiVo was shipped in 1999.



## 23 Purell

Germs trembled, and parents rejoiced ("What in the world is that on your hands?") when Gojo in Akron, Ohio, created Purell hand sanitizer. The market for packaged wipes and towelettes took off amid health scares over flu and post-9/11 threats.

## 24 Home satellite TV

The dishes that receive signals were once so big and pricey, they'd pull down your house if you tried strapping them to the chimney. But the 1994 launch of service from DirecTV led to today's supercompact dishes and lower prices, beaming tonight's *Dancing with the Stars* to the USA's more remote places.

dishes that receive signals were once so big and pricey, they'd pull down your house if you tried strapping them to the chimney." There is an interesting story here - and no room to tell it. I was witness when the creator of USA Today had his first C-band dish installed - broken chimney and all! Sadly, modesty prevented USA Today from recognising themselves as one of the top 25.

## In Volume 13 ♦ Number 153-154

SBE2007 & C-Band Reunion -p. 7, Freeview receiver snafu? An update -p. 11;  
Post C-Band scrambling: The turbulent years -p. 17; Piracy in America Update -p. 27

## Departments

Programmer/Programming -p.2; Hardware/Equipment Update -p. 4; SatFACTS Digital Watch -p. 29;  
Supplemental Data -p. 31; With The Observers -p. 32

## -On the cover-

Sir Arthur C. Clarke, at home in Sri Lanka: January 2007



**The Freeview IRD Snafu**

"I recall that a SKY IRD had similar problems a few years back?"

CS, NZ

"NEXT Electronics are in breach of RSM regs - they do not have a certificate of compliance folder; why?"

PX, NZ

"So we plug in the Zinwell certified unit via the RF modulator and promptly lose all of the pass through off-air UHF high band (V) channels. And who uses the highend UHF band in NZ? Mostly Prime and Trackside ... and which channels elected to not support Freeview and be in the package? Prime and Trackside! Justice is served."

Bruce B, NZ

"Am I honestly expected to do a certified installation, knowing the IRD is defective, and then advise the client they should immediately go back to the importer for either a factory replacement or corrective surgery on their unit?"

Thomas, NZ

**The joys of working for - FOXTEL!**

You might find this humorous IF you don't work for them. Every job has an unconditional guarantee for 3 days. No exceptions!

1/ FTA antenna falls down 2 days after install, in strong winds;

2/ Installer advises customer to purchase new TV-VCR when customer can no longer tune FOXTEL;

3/ Customer complains my FTA no longer works. Installer goes back, finds cable from FTA antenna has blown off, rotten.

4/ Installer is fined (\$100!) and a blackmark on his official record.

You have to be a saint to get activation on the computer, any noise, baby crying, door closing and the link hangs up on you. So off you go again.

In their wisdom, they overload you with work that you did not ask for, and if you are unable to finish, an instant \$100 fine. And on days you are supposed to have 'off' they load you up with work you did not request and hang a \$100 fine over your head if you refuse."

J in Australia

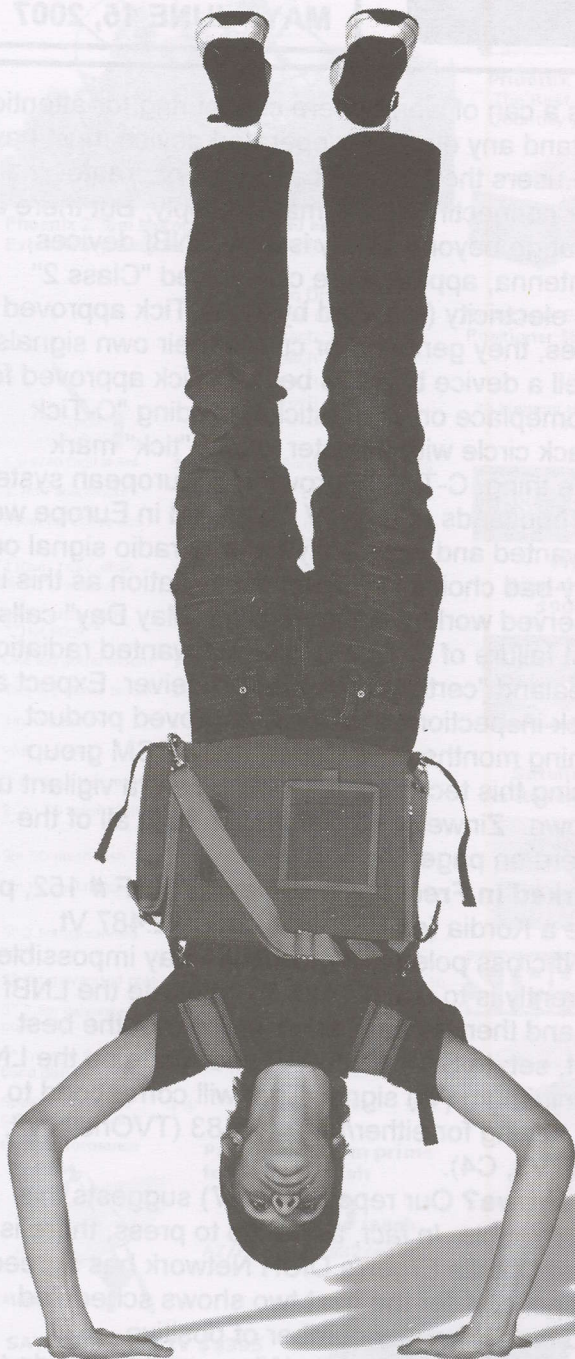
**PROGRAMMER  
PROGRAMMING  
PROMOTION****UPDATE****MAY- JUNE 15, 2007****WHY this is a combined issue**

For 152 issues (September 1994 through April 2007) there has never been a missed issue of SatFACTS; somehow, trips to America, Asia, by-pass surgery have been managed without a break - 13 plus years. But the scheduling of SBE 2007 (last April 18-21) in Atlanta followed in May (18-20) by the Dayton (Ohio) super hamfest created an impossible schedule for the normal May issue. In 2006, Coop attended both but shot home for ten days in between to get out that May issue. Alas, time marches on, health changes, and this was not practical in 2007. This combined issue will be slightly larger than normal, our "make-up" for missing May. Advertisers will have their existing agreements extended one full issue while subscribers will not - you will receive 11.1 issues for 12 this year!

**Just how much 'power'** does the Freeview consortium hold to force dealers and installers to not handle or deal with non-consortium-approved receivers? Or to twist the knife 180 degrees, can SKY arbitrarily elect to not renew contracts with existing installers if they are found to be dealing with any part of the Freeview service - including modifying existing SKY dishes to allow a Freeview receiver to be added? Is any of this of interest to the Commerce Commission, does policy now being enforced or hinted at violate fair trading principals? There is new ground here - **or maybe it is not**. Coca-Cola for years provided coolers for bottled product but insisted that 4-Squares and others not place any competitive products in the cooler. That became a policing problem - someone being paid minimum wage as a grocery stocker can be excused for not knowing, forgetting, that Pepsi cannot be cooled in a Coca-Cola provided cooler box. But can Coca-Cola "warn" a retailer that if they accept a companion cooler from Pepsi, they will lose their right to both the Coke cooler and distributing Coca-Cola products? A call to TVNZ's Freeview desk results in muddled answers. "*Can I sell non-approved receivers without losing my listing as a dealer at Freeview?*" was the question. The answer, on June 7th just to hang a time line on it, was "*Well, hummm - well, yes BUT what we do not want you to do is to advertise or promote non-approved receivers.*" Our response was, "And if we do?" to which the young lady's response came back as, "*Well, I believe we would be justified in eliminating you as a source from our web site and promotional material.*" SO - is a CoShip, Kaon, Strong receiver displayed in the front window of a "Freeview dealer" breaking the rules set down by the consortium? Is that a Pepsi I see lurking behind a row of Diet Cokes in the cooler??? Can I sell non-approved receivers, not lose my certification as a Freeview-approved outfit, as long as I do not advertise or promote these "bastard" sets? Stay tuned.



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## Post SBE2007 - C-Band Reunion

"I can hardly put 'Television's Pirates' down - I cannot thank you enough for placing our history into book form."

Robert 'Doc' Livingston

## NT Reception Problems

"Caravan parks and other users of the Aurora service are being sold a bill of goods in Australia. I have been called in to work out reception problems all around Darwin and the NT because mail-order 65cm dishes simply don't provide enough reception margin when the antennas are aligned by first-timers. The UEC is a particular problem with sensitivity, while Fortec and Humax work better and are less critical to get working properly. A 85cm dish in the vertical format (longer up and down than side to side) is also a much better choice than the 65cm widest side to side versions. These people are paying from A\$800 to \$1200 for a mail-order system and then unable to make them work. The solution might be improved step by step instructions, or a recognition that the UEC is a poor choice when married to a 65cm dish."

Samy, Satellite NT

## New Dish Owner

"I recently purchased a CoShip CDVB 2500E receiver and a 65cm dish. I had not experienced satellite TV prior to this and the exercise to align the dish with a Sat Meter was very educational! I am receiving FTA from D1 and will try B3 shortly. I have located a 90cm dish and am wondering if there are other free to air, uncoded, satellites I will be able to receive. I live on Auckland's North Shore."

Greg Waters

Go to <http://www.lyngsat.com> and select Asia listing. Now click on B3 at 152E and pay attention to the transponders which have NZ coverage.

## Germany to Liberia

"Ref April #152 report, there are at least two pro grade (Andrews) Ku 4m antenna installations in Australia pulling in JcSAT 4A (124E), one of which is in Adelaide! Others in northern Oz (Mackay, for example) with 2.3m (Paraclipse) solids report a variety of reception from JcSAT3. The Adelaide 4m reception reportedly is 'full lock' 24/7."

Craig Sutton, Apsattv

Size matters as does the proper dish-matching feed and a quality LNBf. Plenty of opportunity here!

# HARDWARE EQUIPMENT PARTS

# UPDATE

MAY - JUNE 15, 2007

**C-Tick?** There is a can of worms here clamouring for attention. Most of us understand any electricity operated device must have approval to assure users they will not be injured or create electrical fires after connecting to the mains supply. But there are layers to C-Tick that go beyond safety issues. LNBf devices, mounting at the antenna, appear to be considered "Class 2" devices. They use electricity (supplied by the C-Tick approved receiver) and oh yes, they generate or create their own signals as well. You can tell a device that has been C-Tick approved for safe operation - someplace on it is a sticker reading "C-Tick Approved" or a black circle with a lighter colour "tick" mark signifying the same thing. C-Tick approval is a European system but not faultfree. Thousands of pay-TV IRDs sold in Europe were generating an unwanted and potentially harmful radio signal on 121.5 MHz - a very bad choice for unwanted radiation as this is a spectrum spot reserved world-wide for aircraft "May Day" calls for help. The latest failure of C-Tick to catch unwanted radiation involves a New Zealand "certified" Freeview receiver. Expect a tightening of C-Tick inspections and more approved product failures in the coming months - the Government RSM group charged with policing this technical area will be extra vigilant until the ruckus dies down. Zinwell's official response to all of the activity appears here on page 14.

**"Somebody parked in Freeview's driveway"** (SF # 152, p. 18) turns out to be a Kordia (ex-BCL) data link; 12.487 Vt, making some LBNf cross pole nulling difficult - nay impossible. The answer apparently is to use 12.456 Hz to rotate the LNBf for complete nulling, and then go back 90 degrees (not the best way), or better-yet, set to SKY 12.608 Vt and rotate so the LNBf is showing no or minimum (Vt) signal. That will correspond to D1 cross pole nulling setting for either/both 12.483 (TVOne, Tv2, Maori) or 12.456 (TV3, C4).

**Future of SBE shows?** Our report (page 7) suggests this could be a show in trouble. *In fact*, as we go to press, there is an announcement that Charlie Ergen's DISH Network has agreed to be a "foundation sponsor" for the next two shows scheduled. With DISH behind the show, any number of positive improvements could be in the offering. Why would Ergen do this? Perhaps the recent entry of DirecTV into the "dealer/installer show" world has moved Ergen to look for new ways to outflank his competition.

**Web site address correction:** <http://www.id-discussions.com> is the proper address for a site listed on page 28, here; second paragraph - a correction noted after page 28 had been sent to the printer.

**A note about CFL** (efficient compact fluorescent bulbs) which are attracting political attention for all the wrong reasons. For - They last longer, MAY save energy. Against - 10-15 minute fire up time, cannot be used with dimmer switch, wipe out infrared remote control links and create massive AM, TV, interference.

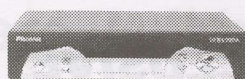


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Phoenix 2800A \$100  
The Best FTA Available  
Quantity price available



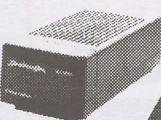
Dreamax DT470 \$100ea  
Irdeto 2 Rec min 5 buy  
Perfect For Selectv min



Zinwell 15K  
LNBF \$24/each  
for box of 24



Motek 2100 \$95ea



SuperJack EZ2000  
Positioner \$50/each



Motek V Box II  
DiSEqC1.2 Positioner  
\$65/each



Actuator from 12' standard  
duty to 36' heavy duty  
From \$35/each to \$220/each



RG6 305m  
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\$75/box  
Quad shield  
\$85/box



Folding Arm Dish  
best dish for caravan &  
35cm \$30 each "Mobile Kit"  
64cm \$25 each "Wide Beam"  
78cm \$44 each  
88cm \$55 each  
North Elev Bracket \$5 each

23 Element Heavy Duty Local Antenna  
Hi-Gain \$40.00 ea

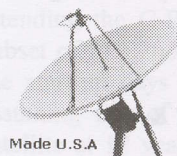
## This Months Specials

|                                          |       |                                         |        |
|------------------------------------------|-------|-----------------------------------------|--------|
| Caravan Digital Ant                      | \$80  | Star C Band LNBF                        | \$18   |
| 1.7m Facia Mount                         | \$15  | Zinwell C band LNBF                     | \$28   |
| 65cm KU offset dish                      | \$22  | PBI C+Ku band LNBF<br>**Top Seller**    | \$65   |
| 110cm Triax offset<br>dish**Clear Out**  | \$100 | MTI C band LNBF                         | \$18   |
| 90cm Offset dish<br>**Hot Price**        | \$35  | MTI one cable<br>solution C Band LNBF   | \$45   |
| One leg gutter mount                     | \$18  | Satellite finder                        | \$20   |
| Two leg gutter mount                     | \$22  | RG6 stripper                            | \$15   |
| Tin roof mount                           | \$22  | RG6/11 crimpers                         | \$20   |
| Wall mount                               | \$15  | Angle meter                             | \$35   |
| Superjack H-H motor                      | \$95  | Compass High Quality                    | \$10   |
| 2.3m SD mesh dish                        | \$130 | RG 6 Crimp<br>Connector 100 pack        | \$25   |
| 3m SD mesh dish                          | \$340 | 22K switch                              | \$10   |
| 3m HD mesh dish                          | \$380 | Two way DiSEqC<br>switch                | \$10   |
| 3" 2.5m galvanised<br>pole               | \$33  | Four way DiSEqC<br>switch               | \$12   |
| 3" 3m galvanised pole                    | \$38  | Satellite 2 way splitter                | \$1.50 |
| 3" 3.5m galvanised<br>pole               | \$43  | Satellite 3 way splitter                | \$2    |
| 3" Triangle Pole for C<br>band dish      | \$50  | Digiarr Terrestrial hand<br>held meter  | \$360  |
| Speaker Stand for<br>caravan use Ku dish | \$40  | Star LED Easy to use<br>Satellite Meter | \$85   |

Best performance

Paralipses 1.2m prime  
focus panel dish

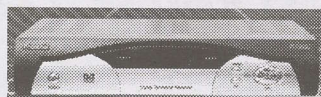
**\$160/each**  
AZ/EL mount \$32/each



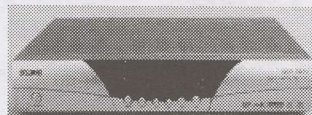
Made U.S.A



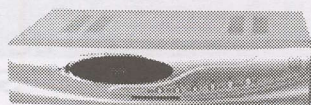
Phoenix JT-3300C  
Digital Terrestrial Receiver  
\$90-1 buy \$75-5 buy



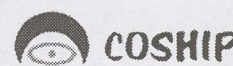
DVR-9200  
Satellite Twin Tuner HDD  
As Reviewed SatFACTS July 06



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Coship 5110D  
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Best for Selectv/Aurora  
**\$120.00ea**

Min 5 Buy  
\$135.00 ea 1 Buy

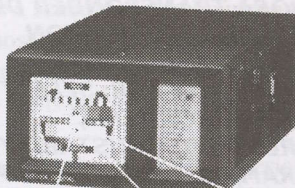
Triax 64cmKU Dish  
The Easiest Dish  
To Align On The Market  
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\$25.00ea



Kingray MHW-34F  
inc Power Supply  
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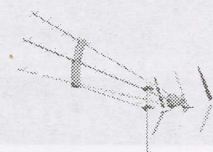
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- Spectrum-analyzer with expanded spectrum.
- Digital BER, QPSK and S/N-ratio.
- 4.5" B/W monitor for PAL/NTSC/SECAM.
- Tuneable sound 5.5 - 8.5 MHz.
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- DiSEqC control (1.0, 1.1, 1.2)
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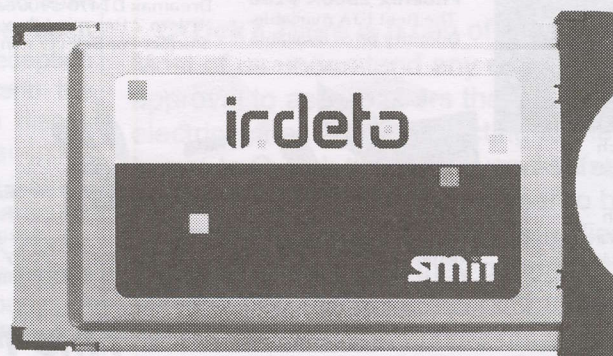
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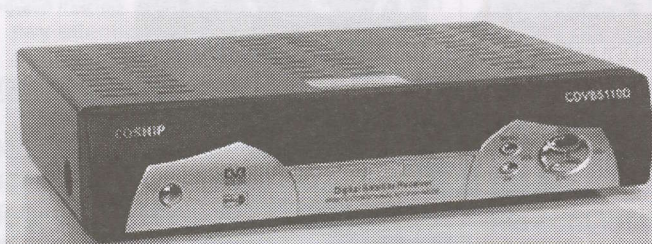


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SIGRAM, VISION ASIA, TV POLONIA,  
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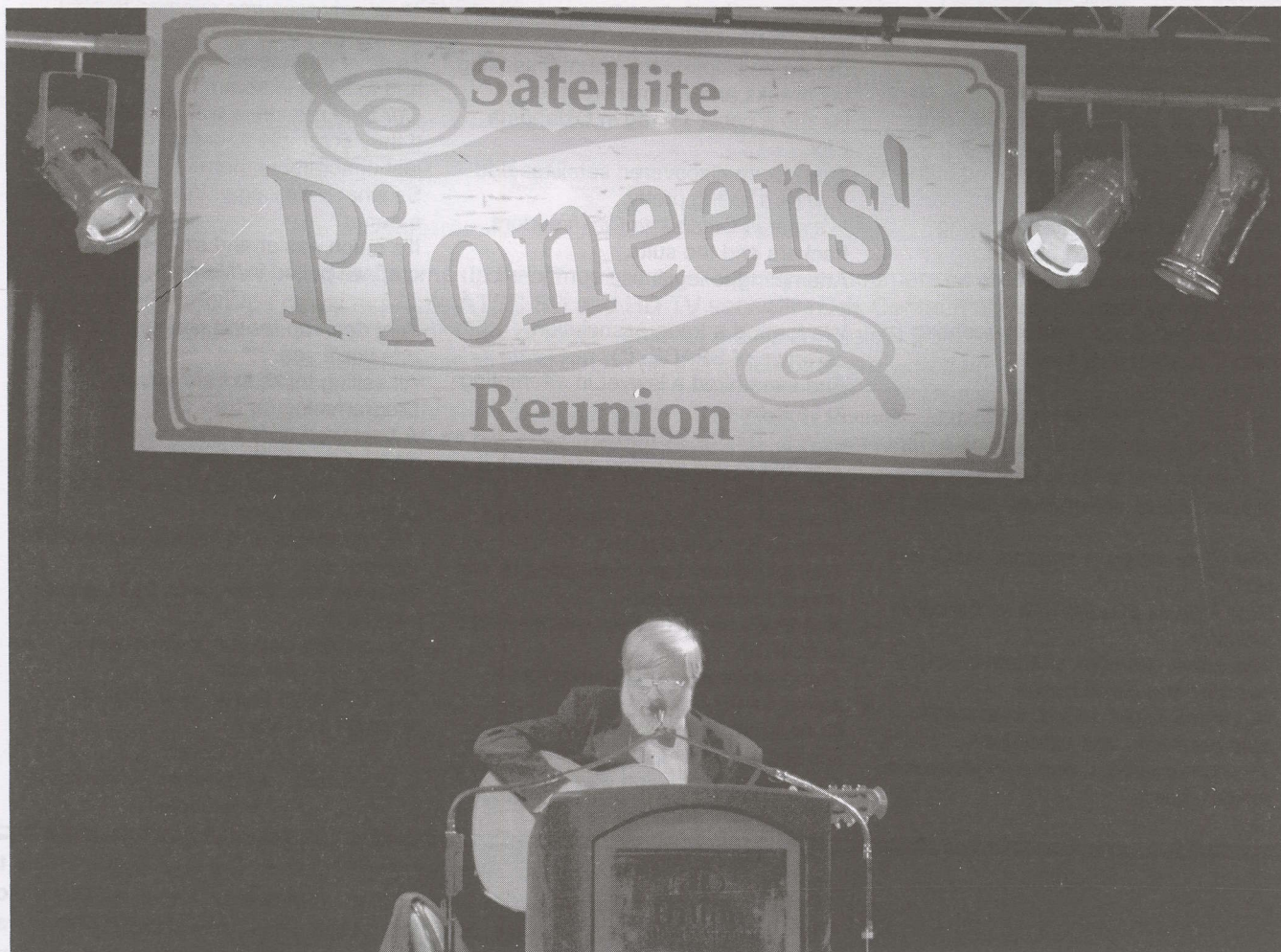


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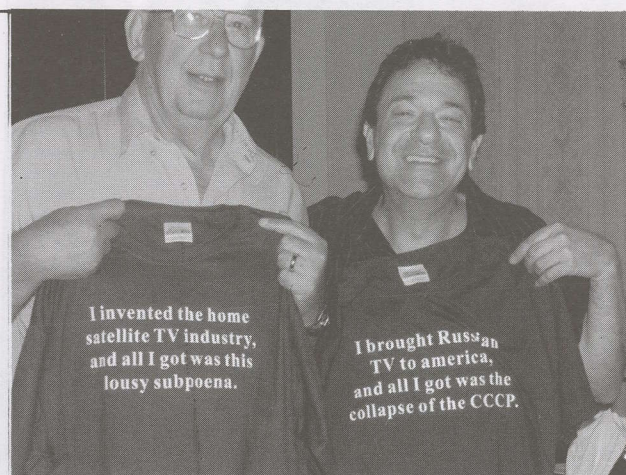


**"You've put on weight"  
"And you are walking with a cane!"**



If age was a qualification, a surprising percentage of those attending the C-Band Remembered reunion conducted as a subset of SBE2007 were too young to have been involved in the start-up days of home satellite TV some 28 years ago; assuming few of those age 40 and under could even spell satellite at 12 years of age. Still, their presence helped swell the overflow banquet hall as a scheduled two hour program ran past the cut-off hour. For most on hand, this likely was the last hurrah of satellite's pioneers - people who did something significant on an individual basis and earned a spot in satellite history as a result.

Alas, the gathering was, like the 1979-1986 period itself, filled with under and crosscurrents, the most vocal of which dealt with that no-no of all taboos, "piracy" of encoded signals. SBE2007 organiser, Marty Bentley of Memphis, had prewarned those scheduled to appear within the two hour dinner show that *"any and all references to scrambling and piracy are to be eliminated."* Dr H. Paul Shuch, an authentic pioneer credited with creating the ICM TV4200 early entrant home receiver, thought otherwise and turned his scheduled 5 minute song-set (photo above) into a mini-awards ceremony



TV2Me's Kenny Schaffer (right) created the system that that played a major role in the collapse of the CCCP / USSR under Gorbachev - as detailed in "C-Band Remembered" (see "Cruising the Moscow Arc" by Tim Alderman, p. 73). Our history is rich!



## Dr. H. Paul Shuch's "Satellite Rebellion"

The Satellite Rebellion  
Lyrics copyright 2003 Dr. H. Paul  
Shuch, sung to tune of "The Bonnie  
Ship the Diamond" (Scottish traditional)

*The shows you watch* on PrimeStar  
and DirecTV as well  
May seem to fall from heaven, they  
rose out of hell.  
A tale of how they got here is a story  
worth the telling.  
As long as you do not take off points  
for scansion, rhyme or spelling.  
*Just who was it* that developed home  
satellite TV?  
Libertarians and hackers thinking  
programming should be free.  
"If photons from your satellite are  
falling on my head,  
You can't stop me from intercepting  
them," is what they said.

Chorus:

And it's point your dish up to the  
Clarke Belt and see how a crew of  
crypto pirates brought you satellite TV!

*The early program vendors*, HBO and  
MTV,  
Sold signals at a flat rate to the cable  
industry.  
The cable downlink stations cost a  
hundred thousand bucks.  
But hams could do it cheaper with  
some cunning and some luck.  
*Though amateurs*, these microwavers,  
military bred,

Had come to see that off-the-air and  
cable were both dead.  
If networks could use satellites to beam  
their shows around,  
Then why not the parts that chance to  
run aground?

Chorus:

*A ham named Robert Cooper* is who  
gathered us together.  
Before he skipped the country seeking  
tax breaks and warmer weather,  
He ran a cable TV rag in Oklahoma  
City.  
Then Coop discovered satellites and  
now he's sitting pretty.  
*We met in Oklahoma City*, vendors,  
hackers and the suits,  
Attempting to legitimise our technical  
pursuits.  
We formed a trade association,  
acronym of SPACE, (\*)  
And even hired a lawyer in attempting  
to save face.

Chorus:

*The first to pull in video* and synch it on  
the screen  
Was a double-E from Stanford. We  
were envious and green.  
Though others were attempting it, Tay  
Howard won the race,  
And that's how Tay became president  
of SPACE.  
*Three times a year at seminars* he  
called SPTS,  
Coop brought together those who  
wanted video for less.  
Our trade association was a small,  
cohesive group,

With Coop as our inspiration - and then  
he flew the coop!

Chorus:

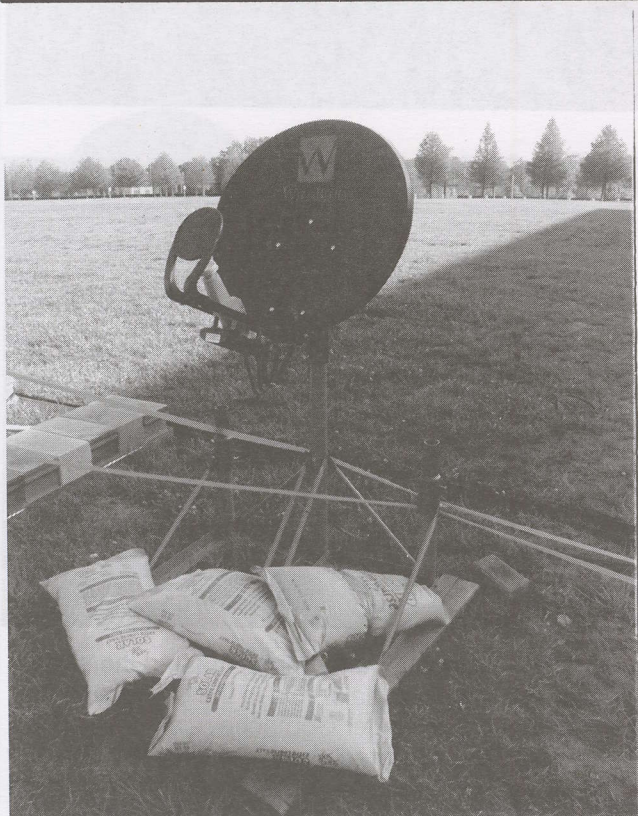
*Soon ten and twelve foot dishes* came  
to dot the countryside.  
When they saw their profits tumble, the  
cable vendors cried.  
Their only recourse seemed to be a  
brave and costly gamble:  
To save themselves from piracy, they  
had to learn to scramble.  
*Our best response* was standard ECM.  
If they scramble to defeat us, we can  
just unscramble them.  
So what if it's illegal. You think we give  
a damn?  
It's much easier and safer than the  
crap we pulled in 'Nam.

Chorus:

*Just open up the classifieds*. A hundred  
ads you'll see,  
All selling tricks to help you pull in  
programming for free.  
A backyard dish phenomenon had  
spread across the land,  
A Challenge just as blatant as a line  
drawn in the sand.  
*The amateurs and hackers* appeared to  
win the day,  
Until the final battle, won by Hughes  
and RCA.  
Our analog decryption skills were  
better from the start  
So DSS went digital, and shot us  
through the heart.

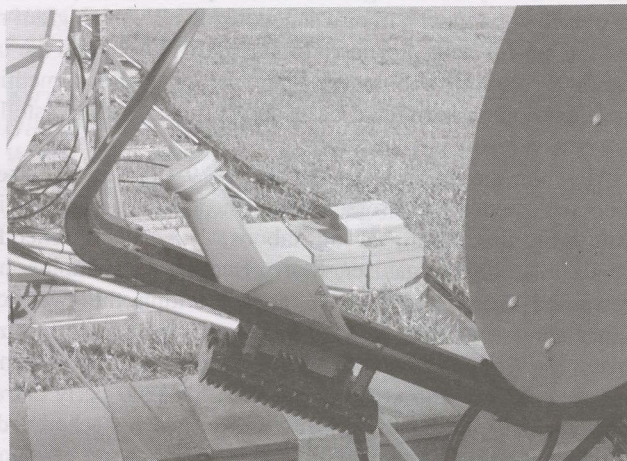
Chorus.

(\* - Society of Private and Commercial  
Earthstations)

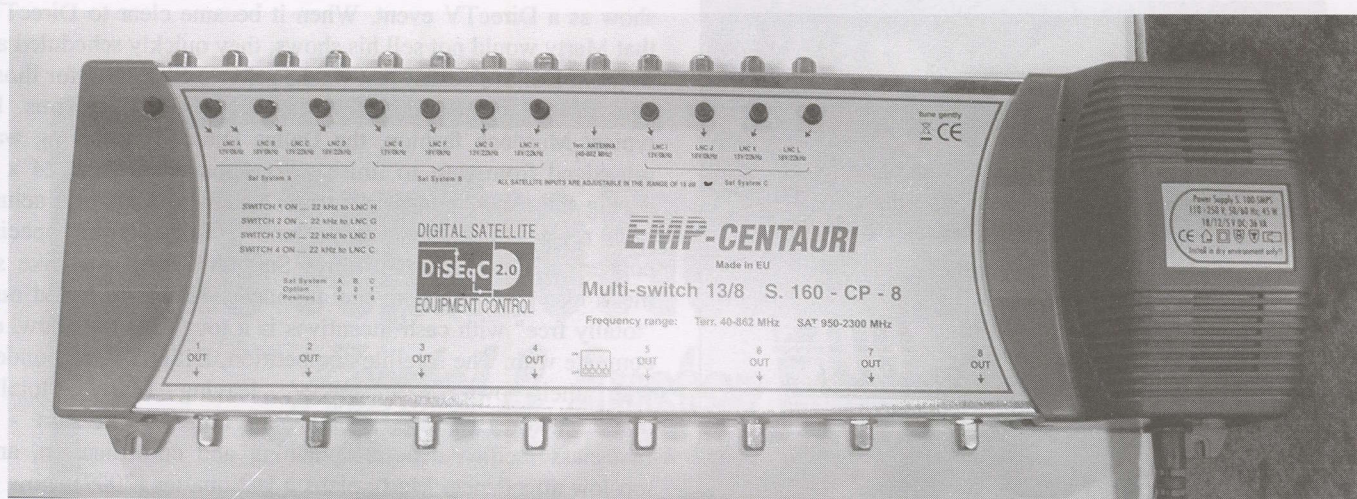


that left the audience stomping their feet and singing along to original lyrics (see above) transporting those in attendance back into the early 80s. Alas, show entrepreneur Marty was neither impressed nor pleased at the deviation from his "no piracy mention" dictum. Marty would, post the event, write

Independent (non-DISH TV or DirecTV) installers, to make a living, have been forced to learn the technology behind two-way satellite system installs that deliver Internet and telephone service to remote locations. This is the latest Wild Blue hardware package.







"Overwhelmed with choices" sums up the American marketplace - consumers have access to thousands of satellite channels plus newly available ATSC SD and HD TV services. This Centauri allows 8 separate inputs to be fed individually to any of 13 individual outputs - each of the 13 can select from any of the inputs without interference to what others (in the group of 8) are watching.

Shuch, *"Piracy happened, it was twenty years ago, but that does not make it something to be glorified."* Subsequently, the DVD "master" of the event, including Shuch's two-song set, would be "embargoed" by Marty. As Marty would complain, *"Many thousands of dollars were spent to present the Pioneer's Dinner and to be quite honest, I cannot believe you performed the song, making a mockery of everything I did to try to honor those who built the industry."* On June 8th, DVD was "being reconsidered for release" ([www.bobcooper.tv](http://www.bobcooper.tv)).

The Pioneer's Dinner, in the Marty-approved format, remains available at (part 1) <http://www.satelliteguys.us/sbe1.wvx> and (part 2) <http://www.satelliteguys.us/sbe2.wvx>.

The show itself, separate from the Pioneer portion, was - well, a bust; lightly attended by attendees although the exhibitors were out in force. There are many reasons.

Marty's SBE shows are an add-on to corporate shows sponsored by DISH TV and competitor DirecTV. The later, recently sold by Mr Murdoch, had spent the better part of

Here is a gadget that might make sense to those who are doing massive (such as motel/hotel) installs requiring hundreds or thousands of individual cable clips, or staples, to fasten RG6 to wooden substructures. A battery operated staple gun, designed for RG6 and other diameter cables. Helfer Satellite, PO Box 115, Croton Falls, NY 10519 (USA) or telephone Paul at 001-914-882-3077.







Twenty five years ago, Greg Heifner was a private pilot ferrying antenna manufacturer Jamie Gowen (ADM Antennas) around the USA at a time when ADM was the 1st or 2nd largest seller of home and commercial dish antennas. Today, Heifner has created a business around "Orbital Data Net" which provides fully satellite communication equipped mobile vans to towns and cities throughout North America; bring on the terrorists!

April-December 2006 attempting to purchase Marty's SBE show as a DirecTV event. When it became clear to DirecTV that Marty would not sell his shows, they quickly scheduled an event in Dallas (Texas) just weeks prior to SBE2007 for those who install (or would like to install) DirecTV systems. In typical Murdoch fashion, the Dallas DirecTV gathering was gilt-edged from start to finish - 'free' food and drink 24 x 7 during the show, bonus incentives to attend including actual cash rewards for being there, and a Rod Stewart special concert at the Dallas Cowboys Stadium which was like so much else totally free to the attendees. As Marty found out, "totally free" with cash incentives is a tough act to follow, or compete with. The satellite competition, DISH TV, responded with their own 'super show', leaving Marty's totally non-aligned SBE2007 as odd man out. And it hurt - a first-class facility, superior planning and co-ordination, and too-low attendance. Marty plans a last-quarter (2007) show in Reno (Nevada) and projects a return April gathering (Kentucky in April) but the reality is that when faced with "cash attendance incentives" from DirecTV and DISH those who don't make a living from either are essentially too few to warrant their own trade show.

Will C-banders ever again congregate to remember the glory days? Unlikely. Sadly, time marches onward and each year a few of these good folks pass on into Clarke Orbit and beyond; or in the opposite direction. It was a glorious era, never to be repeated and no amount of memories will bring it back.

American councils and sub-division builders have just about eliminated the possibility of any satellite or terrestrial reception antennas mounted on a building unless it is 'hidden' from view and below 1m in size. In

the most severe of such restrictions, even 65cm satellite dishes are prohibited unless 'invisible' to the eye. One solution - fibreglass housings (rocks!) with the antenna hidden inside.





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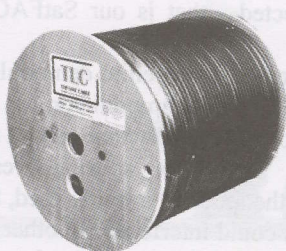


### RG6 Quad Premium RG11 Quad Premium

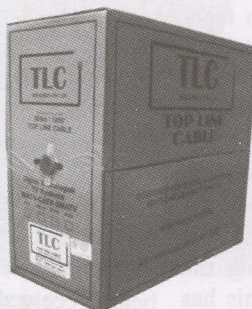


Underwriters  
Laboratories Inc.

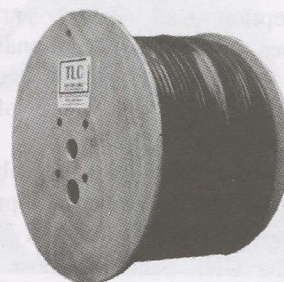
Both cables also available in flooded  
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## Receivers for the new service are under attack - is it competition?

Why would someone, anyone, attempt to make the Zinwell receiver, the first "approved" by the Freeview consortium, the object of attack? Why would people, normally apolitical, become part of a movement to "demand" that the Zinwell be taken off the market? The answer: Competitive forces still smarting from the months ago tug of war that saw TVNZ's hierarchy doing their corporate best to eliminate any and all receivers which they did not sanction.

About which. Freeview is a consortium of TVNZ and TV3/Canwest. There are two distinct sides to Freeview: The technical side (which is overseen and run by the technical arm of TVNZ), and, the programming side (which involves the usual competitive aspects of TVNZ and CanWest/TV3 et al). Freeview is a consumer oriented satellite fed (terrestrial will come in 2008) 7 channel service spread between two transponders on the horizontal side of Optus D1; 12.456 and 12.483.

In theory, anyone with a 65cm dish, LNBf, cable and free-to-air (FTA) receiver directed to D1 horizontal should have access to all of the Freeview services. Unfortunately, because of installer mistakes and/or equipment malfunction, many of those who have purchased Freeview systems have found (1) no reception at all, (2) only partial reception from the TVNZ services on 12.483. Additionally, those installing the consortium approved Zinwell receiver have also discovered a separate challenge - loss of terrestrial (UHF) channels when the system is installed.

The claim, substantiated by a number of independent sources, is that the Zinwell receiver as approved by TVNZ for Freeview sale and use is defective - it generates noise and interference in the UHF band for those systems using the in-built UHF modulator to link to the TV receiver. This has led to 'demands' by (competitive-to-Zinwell) receiver sources that the receiver be "recalled" until the modulator problem can be corrected; in essence, taken off the market. There is more to this than a simplistic modulator problem, of course.

Freeview has followed a convoluted pathway to air as SatFACTS has reported. The very name, Freeview, was originally registered as a trademark not by the TVNZ consortium but rather by an Auckland dealer in TVRO receivers. Money changed hands (SF#152, p. 2) to allow the consortium to reclaim their own name (think of "Coke" being registered by a competitor because of a Coca-Cola oversight and you have the essence of this story). TVNZ's Freeview honcho, Steve Browning, has boldly suggested *"approved receivers (Zinwell, and Hills) will capture 80% of the marketplace."* When one of these (Zinwell) has unofficial technical performance problems, and the other (Hills) is apparently available in small quantities only, and Browning appears to be spending the majority of his office time defending the technical mistakes of their approved-receiver procedure, it is not surprising that sooner-than-later the consumer news media (such as The New Zealand Herald) picks up on the story and labels "Freeview in trouble." For

### Items not properly announced by Freeview

- #1/ That Freeview would be split between two horizontally polarised transponders; 12.456 (where TV3, C4 are broadcast) and 12.483 (where TVOne, Tv2, Maori, TVNZ widescreen and special coverage are broadcast). We were led to believe that all services would be on a single transponder - 12.483.
- #2/ No technical advice (or we missed it) concerning the Kordia originated 12.487Vt signal that unfortunately complicates 12.483Hz installation adjustment of LNBf cross pole isolation.
- #3/ Total confusion concerning the status of the Zinwell receiver. Zinwell tells SatFACTS (page 14, here) there is no "massive recall" as some competitors are demanding - clarification by Freeview to shut down the Internet postings would be useful.
- #4/ Equally massive confusion concerning Freeview rules - can you do approved AND non-certified?

whatever reason, the media loves to find TVNZ making mistakes and this one is possibly a "boner" worthy of extended coverage.

The Zinwell receiver problem is, in fact, quite minor and capable of being corrected - that is our SatFACTS view. It boils down to this.

1/ The receiver processes the satellite demodulated input to send onto an in-built UHF channel modulator.

2/ The UHF modulator, supposedly limited to a single output channel, in fact has "spurs" or spurious responses and depending upon where the receiver is being used, these "spurs" (extra, non-TV) signals could interfere with other UHF signals being received by a terrestrial antenna (such as Maori TV, TAB).

Those who are affected and angered by this situation are suggesting that a test procedure known as "C-Tick" should have caught this modulator problem; the receivers with this problem should never have made it to the NZ retailers who are selling them.

C-Tick is a label, typically appearing on the rear apron of an item, and what it stands for is "Technical Conformity." C-Tick is a world standard, a test procedure with many layers of involvement. The first and perhaps most important "layer" deals with product safety - will this electricity operated product present any shock or lethal voltage hazard to someone using it? C-Tick testing and approval here means the product may be operated without safety concerns. The second layer or level of C-Tick involves technical parameters beyond the "electrical hazard" safety area: Does it do what it claims to do (such as play MP3 music, provide a standby power source for your PC, or, in this instance, allow reception of L-band input satellite signals?). C-Tick approval is in fact done at an international level, and often done by surrogate (second level) intermediaries. Zinwell, which in fact is not the actual builder of the ZMX-7500 receiver with their name on it, in obtaining





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produces the receiver; in even the most elementary testing one looks at the output of the UHF modulator with a spectrum analyser.

Bruce Barnett (Wanaka) did this - hooked the 7500 to his own spectrum analyser to see what was coming out of the unit. SatFACTS did the same, but we admit we did *not* do this in our initial review testing (SF#150, p. 7). What he found was not one (a single) carrier coming out of the modulator but two - sometimes more. Moreover, Bruce found that in addition to the unwanted and interference creating extra carrier(s), the modulator was generating "noise" at the high end of the UHF band - from approximately 650 MHz upward.

In a standard installation, the consumer's UHF antenna is looped through the 7500, and the channel-adjustable UHF modulator is set by menu instruction to operate on a frequency (channel) which does not conflict with off-air UHF reception stations. The theory is that by "looping through" the UHF modulator, all UHF antenna provided channels pass through to the TV set and the modulator adds one more channel - the 7500's satellite signal remodulated to UHF. Several hundred million satellite receivers do this with no problems - it is standard design format.

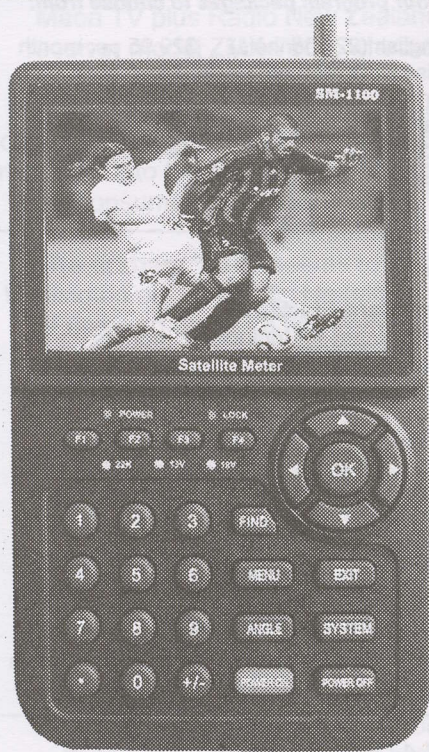
But modulators are signal generators, not significantly different from full power TV stations - lacking only the output "power" of a commercial station. Past SatFACTS have provided instruction illustrating how you begin with a UHF modulator, amplify the output power, connect this to a TV antenna and create a short range (under 1 km) 'broadcast system' that can deliver one (or more) TV channels to nearby neighbours. Modern in-built TV modulators, like the Samsung BFE1504, are two-dollar devices with few (if any) of the built-in safeguards that a *real* TV transmitter employs. Spurious signals, unwanted carriers at the output of the modulator, can be a practical problem.

#### Attacking the messenger

Zinwell has delivered some quantity (Zinwell reports 4%) of receivers which *may* create UHF band interference. This is possibly a modulator design problem, probably correctable. Some who play in the Freeview world, competitors, would only be silenced if Zinwell recalled *all* of the 7500s out there, and replacing the modulator with one that does not have a "spurious" problem.

Their reasoning is sound if tainted by their own commercial interests. The real problem here is that the Freeview consortium, through TVNZ's Steve Browning, has created a marketplace which relegates non-consortium approved hardware to a "bastard" role. Freeview, by creating hundreds of retail outlets which sell their "consortium approved" receivers and a large number of "Freeview approved installers" has very deliberately and aggressively labelled those who sell a non-approved product as "the enemy."

Coship, Strong, Maxplus, Kaon and a number of other branded receivers all *receive* Freeview and for whatever reason cost the consumers less - some 50% less than the "approved" versions. By not being "approved" and told they cannot and will not be approved, "for at least a year," these otherwise perfectly suitable receiver suppliers are understandably angered. The consortium had a Freeview introduction marketing plan, involving only two "approved" receivers, and the non-approveds were left to fend for themselves. The consortium's Browning has boldly forecast, "80% of all Freeview sales in the first year will be approved receivers." So when the approved Zinwell 7500 is found to be a problem product, competitive juices have flowed and the Internet has become the tool of those who find an opportunity to strike back at the consortium's "approval" policy. Clamouring to have the Zinwell "taken off the market" is one opportunity to level the playing field.



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Those grey market years -

## On January 15, 1986 FTA turned into Conditional Access TV: The turbulent years.

Tim wrote:

My life was changing almost on an American dime piece. I was sucked in, by my own weakness, to build a satellite dish owner radio station. Not once, not twice but three times! Keith Lamonica was found one night by my tuning the satellite radio dial. His was a voice that violated all of the rules, the media talking about THE MEDIA! I soon learned why. There was a revolution underway, the dragnets were out and I was snared in the pile.

On the satellite radio, another voice - this one squeaky clean - from a man named Chuck Dawson. Night after night Chuck would appear on my satellite radio receiver to engage Keith Lamonica in lively conversation, active debate. The nexus was the unfairness of the cable TV industry who had created a consortium to ban the free flow of information. Cable was in the 'signal starvation' business and considered that precious commodity, the public park in the sky known as Clarke Orbit, as their own private turf.

"How dare these upstart TVRO dish owners want to have their own piece?" What brash and foolish thinking did they have to envision wrestling control from the likes of TCI and John Malone? This was a new, virgin territory, home satellite dish, and cable saw it as a mortal enemy, to be squashed at any cost.

It would turn out that Chuck Dawson was not exactly squeaky clean; he had his own history, including a period as a porno channel operator. But never mind - that was then and this was now, 1987, and unlike the old fashioned charismatic Keith, he was proving he could do it without the foul porno mouth.

What sucked me into the inner workings of satellite radio was the message. It was 75 miles one way from my home in Oakland to the Gilroy (California) home of Keith's radio show. And for all that Chuck was (including a ham radio operator), he was not up to the technical challenge of creating a glitch free hours-per-night radio feed using sub-carrier FM radio on satellite. Even the basics did not work properly - when a caller appeared on the phone, I had to turn up the volume and then when Chuck spoke - back it down. Most disconcerting.

And since I had the voice and data telecommunications, plus extensive transmission experience, courtesy of my employer Western Union Telegraph Company, I volunteered to make the trip to solve his audio level problems. Little did I realise, at the time, that this was simply the entry level into a life of being behind the scenes and ultimately very responsible for what went out over the air, via satellite, nation and continent wide.

And solve it I did; creating 'toll quality telephone line hybrids' to separate the signals was a start. And fortunately for Chuck Dawson's radio service, I had spent the preceding

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**"Take A Bite**  
**Out Of Cable"**  
**Their prices are a crime!**

decade designing and building custom studios for local radio stations. Dawson's satellite service was technically 'one of these' only he didn't end up on 940 kHz AM or 101.1 FM, he was on some multi-thousand-megahertz satellite link only available to those folks who owned private satellite dishes. The basics do not change.

And to help out my Chuck Dawson volunteer activity, I had been a rebel, a pioneer in this field. So the stage was all set. As the world of TVRO came crashing down around itself on January 15, 1986 (the day that HBO turned on scrambling full-time), I answered the call.

Chuck Dawson launched his K-SAT Broadcasting in May 1986, and I was there almost from the launch. The first task was to modify the telephone line hybrids to work in a radio station environment.

Initially, the 'station' was located in a spare bedroom in his home. But once K-SAT began, there were calls to the 'station' 24 hours a day. Dawson expanded shortly into a trailer he had rented, adjacent to his garage. And in the TVRO world, with thousands sucked in by Dawson's magic words, an army began to emerge.

This story began as a four page "memorium" submission from Californian Tim Alderman; a 'private' reflection of his involvement with the K-SAT Army that formed to fight the cable TV interests over the devilish deliberate plan to shut down - forever - C-band TVRO. The original material has been expanded, significantly, by Coop because of his access to material Tim did not have. The responsibility for correctness, political or otherwise, therefore rests with Coop. Tim may be found at [tim@electron.org](mailto:tim@electron.org).



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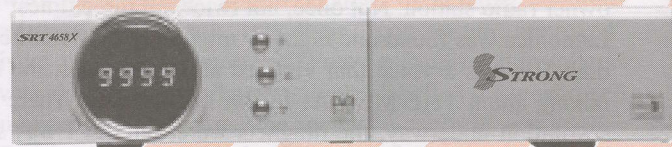
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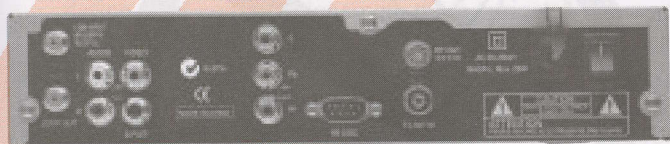
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*Not without a fight!* That was the K-SAT Army battle cry. It was not enough to spew forth verbal venom. Chuck called for donations, large donations, to gather sufficient support to travel to Washington (DC) and take on the powerful cable TV lobbyists. Thus, the soon to be infamous '1083' was born; the TVRO dish owners with deep pockets.

Chuck Dawson was a voice of rational reason - but his nemesis Keith Lamonica was anything but. The mouth of Keith was foul, subject to no FCC oversight, and shortly it became the voice of the TVRO pirates - those who saw scrambling not as a social issue but as a technology challenge.

By July 1986 the stage had been set - scrambling was six+ months old, piracy had become a major business. There was the FMA crowd, pirates in skull and crossbones trying to cheat cable out of what they saw as their own territory. And there was K-SAT, squeaky clean and no profane language with their 'Committee of 435' - one satellite dish owner, all-giving in their beliefs and dedication to Dawson, one each satellite dish fanatic in all of the U.S. Congressional districts.

Each '435 Committee' was assigned a congressman (or woman) to marry their campaign to. Each Congressperson was supposed to hear from his or her 435 Member, and hear frequently. No, it was not name calling - there were strict procedural rules against angry outbursts. We were the "good guys," we were opposed to scrambling just as were FMA and others. But we wanted more; much more. We wanted to create legislation that would protect the viewing rights of C-band TVRO viewers. Chuck Dawson's effort was all about grass roots democracy - find a need, publicise the need, create a ground swell of voter support and convince prominent legislators it was their duty to shepherd the legislation through to Presidential signature and law.

Coop wrote:

On the opposite side stood the cable TV system operators and their programming associates (HBO and others). Back in October 1984, a piece of legislation designed to grant cable firms more freedom to establish their monthly rates and determine which stations each could deliver to consumers had become law over the signature of President Ronald Reagan. The "Cable Communications Policy Act of 1984" had been years in gaining support, when at the last minute the satellite trade association SPACE managed with the help of influential senators such as Al Gore and Barry Goldwater to "attach a rider" to the bill. In the USA, laws intended for one purpose, assured of passage, are often modified just moments before passage when an influential group amends the pending law to include new language. Often the two (topics) are totally unrelated; funds to build a new bridge in Michigan - for example - tacked onto a arms control law.

SPACE managed to create new law which for the first time recognised the legal status of a home satellite dish in the USA. From October 1979 through late 1984, the Federal Communications Commission had practised a "hands-off" policy concerning private C-band dishes. Prior to 1979, all C-band receiving dishes, no matter what their intended use, were *illegal* without an FCC license. And the licensing process was long, convoluted and expensive - easily US\$3,500 and often much more just to create the paperwork application the FCC demanded.

But in October 1979, the FCC decided to make "dish licensing" optional, faced with literally thousands of applications they neither wanted nor were equipped to handle.

## Who Scrambled the First Amendment...?



## The Cable Companies!!!

GET IN THE FIGHT FOR "FREE FLOW OF INFORMATION" Tune in to K-SAT SATELLITE RADIO  
800 to 1230 P.M. Eastern Time  
4 nights a week Teletext 300 transponder 15-4-00 audio  
Thurs. Fri. Sat. 300transmit 1 transponder 14-2 audio

Many mark October 1979 as the "birth" of private, home dish TVRO, from that FCC decision point.

But there were two issues relating to "legal home dishes" and the FCC ruling had dealt only with the licensing portion. The agency discussed and "put off until another day" the question of "access rights" to the material transmitted by satellite.

C-Band technology had suddenly made it possible for someone with a small dish and inexpensive receiver to tune in dozens, later hundreds of free to air television channels. In the American mind-set, while HBO, Showtime, ESPN, CNN and hundreds more that would use satellite "might be" *private* property serving a specific licensed or contracted-by audience (the cable systems, broadcast stations), a \$995 package of equipment was all one required to tune in these broadcasts.

The concept of "private transmission content" was established by law in 1934, but the language then adopted was written around the creation era - long before broadcast television was developed. The law - "Communications Act of 1934" - might be used to throttle the expansion of private C-band dishes but very few attorneys on either side of the issue felt comfortable trying to obtain a court decision in 1981 or after with language written nearly 50 years prior.

The FCC did their best to duck the issue when programmers such as HBO complained, reverting to a logical if impractical line in the sand by stating, *"If you do not want unauthorised viewers to watch your programming, then scramble/encode the content."*

There was a thin line here. Americans, like most other nationalities, had grown up on free to air programming - radio before television. Free to air works because of advertising, or for a limited number of stations, public support given as annual or bi-annual pledges. For both radio and television, the consumer acquired a suitable receiver, turned it on with



whatever attachments as the location might demand (such as an outdoor aerial) and the fun began. The first several hundred C-band TV (plus a larger number of radio services) looked just like FTA terrestrial television; buy a receiver and aerial, and you were away.

But that 1934 "law" had defined specific frequency bands for "public broadcasting" - the AM radio band, the VHF and later UHF television bands. Receivers for both proliferated, always improving the features and lowering in pricing. The same 1934 law also established "private" radio frequencies which if not outright owned by the user were assigned for specified periods of time. And the 1934 law attempted to define what could be done with these "private" frequencies by explaining their content was "confidential," not for general consumption.

Initially, only a small number of transmissions were deemed private - police two-way radio (barely launched in 1934) was one of those. That would not prevent the creation thirty years hence of sophisticated "Police/VHF/UHF" scanner radios which promptly became very popular with journalists and radio enthusiasts.

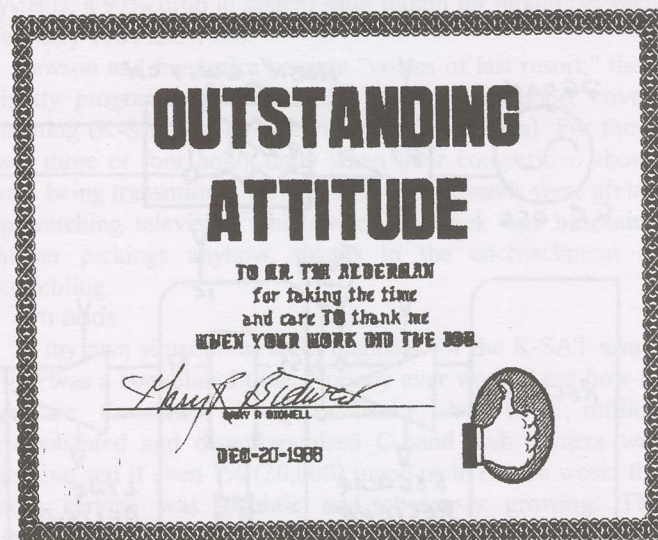
C-Band was assigned for satellite use by a wary FCC over the strong objections of AT&T, then "the" American telephone company. Our nominal 3.7 - 4.2 GHz "band" had been pioneered in 1947 as a point-to-point linking service, allowing transport of several hundred telephone calls, later one or more TV program channels, over line-of-sight distances from 20 to 50 miles apart. A network of these "microwave relay" stations, each identified by the four legged 200-400 foot self supporting steel towers typically located on a tall high or mountain top (the better to "see" further and create longer point-to-point links), eventually spanned North America.

Prior to satellite, few if any adventurers had attempted to "intercept" (receive without permission) the content of these relay stations. But as satellite began to become better known, in no time at all folks who were attempting to locate HBO from a satellite were finding "I Love Lucy" reruns spewing out of the relay stations.

AT&T had never bothered with encoding or scrambling their terrestrial relay links - why bother if the equipment for receiving it was either not available or so expensive and complex as to deter even a whacko would-be eavesdropper?

The status of encryption in the period 1978-1984 was at best a laboratory curiosity. Several firms- Blonder Tongue being one - were experimenting with early forms of encrypting over the air television. "Subscription Television" consisted of sporting events not available on FTA or cable, movies which were only the week prior available at a pay-to-enter theatre. BT's scrambling technology was a first attempt at making the video unviewable, or the audio distorted, as a way of ensuring payment for viewing. The challenges were considerable - "Any encryption system they can create we can reverse engineer" was a challenge laid down in front of tens of thousands of workshop enthusiasts.

The FCC, in support of these early encryption attempts, issued threatening statements warning these circuit tinkers not to attempt to "profit from" piracy technology. The warning had little affect - and STV start-ups in major cities (New York, Los Angeles) ultimately failed when the number of non-paying terrestrial viewers made a mockery of those who were willing subscribers. All of this was happening during the 1979-1984 era, a period that saw the number of home satellite dishes in consumer hands propagate from a few hundred to more than 2

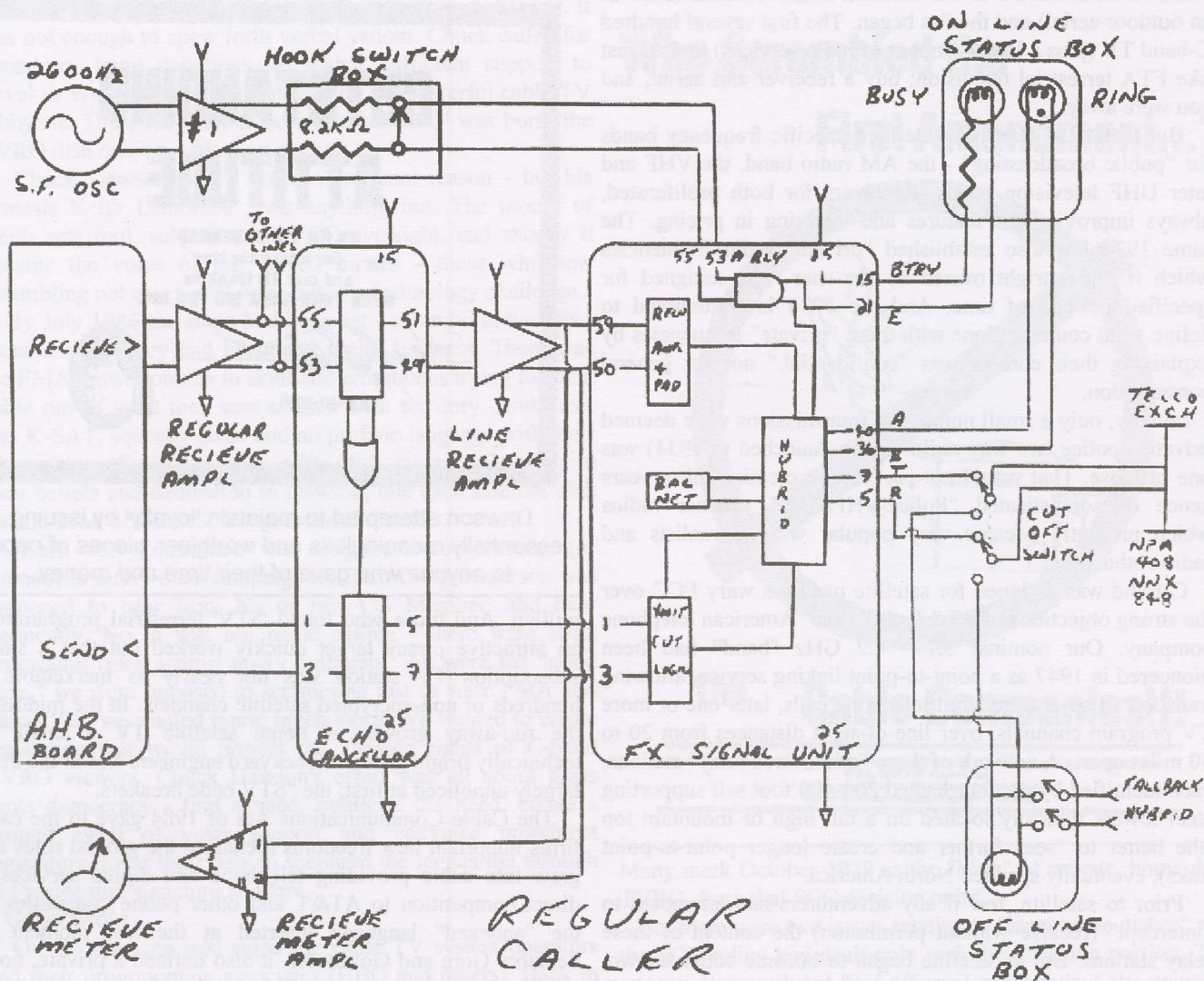


Dawson attempted to maintain 'loyalty' by issuing essentially meaningless and worthless pieces of paper to anyone who gave of their time and money.

million. And those who found 'STV' terrestrial programming an attractive piracy target quickly worked out that a single subscription TV station was not nearly as marketable as hundreds of non-encrypted satellite channels. In the middle of the run-away growth of home satellite TV a small but technically bright group of backyard engineers slid in the door, largely unnoticed at first; the "STV code breakers."

The Cable Communications Act of 1984 gave to the cable firms important new freedoms including the ground rules that grew into cable providing telephone and digital services in direct competition to AT&T and other phone companies. In the "annexed" language inserted at the last moment by Senators Gore and Goldwater, it also defined a private, home satellite dish owner as "entitled to the cable programming at fair and equitable charges." The marketplace would determine what was "fair" or "equitable" and that immediately became very one-sided. Cable firms wanted home dishes to have NO access to their programming because it cut into their own subscriber growth. The Act left it up to cable "and the marketplace" to work out what the marketing mechanisms would be for home dish owning subscribers. Some cable firms immediately decided they were in charge, appointing themselves as the local (county region) source for subscriptions. Most then adopted a rule which all but killed home dishes in urban regions - "If your home is passed by (has access directly to) cable, you *cannot qualify* for a home dish subscription." Other cable firms, in states where regional legislation allowed deficit financing, began stringing cable into purely rural areas. Today, go down highway 31E in northern New York state and marvel at how 100+ channel cable meanders down tens of miles of rural roadway passing barely one farmhouse each half mile. Or highway 12 in north-central Ohio wandering from Fremont to Findley and then Fosteria where 3/4" super trunk lines are serving up cable to homes a mile or more apart. It all happened when cable firms were forced to install cable into areas that had no possible economic return in a lifetime of debt, in exchange for ensuring these homes could never select C-band satellite as "an option." By tying up these rural areas, cable cemented its relationship with the programmers and ensured that C-band would never become a competitor. In 1986, this same thirty mile stretch of





Remember - this was 1987, before 'Sound Cards' and the digital manipulation of audio in both directions. Tim's analogue discrete parts approach to creating a professional sound from Dawon's audio and the telephone caller's voice.

New York 31E was laced with C-band systems, on average 2 homes out of three. Today, even the in ground support pipes have been removed.

The 1984 Act may have granted "status" to satellite dish owners, who previously with or without knowledge, were breaking the law but the SPACE sponsored "attach-on" law was missing vital language which would ensure that home C-band dish systems did not become totally subservient to and under the direct control of local and national cable firms. What the 1984 Act really did, as time would define, was plant a ticking bomb by cable inside of home dish growth. From the January 1986 launch of full-time HBO (+ Cinemax) scrambling, the water all ran downhill for home satellite and the collection pond at the bottom was owned, controlled and patrolled by the cable TV industry. To add salt to the wound, cable operators found "federal (government) subsidy funding" through a Rural Telephone Act that actually paid the cost of the majority of these countryside "line extensions" which neatly satisfied their mid-term plans to simultaneously expand into cable-telephone.

Tim continues:

The K-SAT "good guys" were an elite who saw beyond the hypocrisy of Keith Lamonica's foul mouth ranting that directly

on-air encouraged "card pirates" to "bring the products on!" Lamonica believed he and his gang of thieves could make life so tough for the "prohibitionists" that the clock would be turned back and all scrambling turned off. His approach was direct and hardly innovative - *"The larger the number of people stealing HBO, the smaller their incentive to stay with this scrambling activity."* He was joined in this 1986-1990 region tirade by TV personality Shaun Kenny (Boresight programme) who upped the ante by adding one-on-one live demonstration video reports to Lamonica's "imagine this" audio only radio shows. "Good guys" K-SAT found legislative sponsors, politicians willing to put their name and influence on the line to force cable companies to treat satellite viewers with the same financial demands as their cable subscribers were paying for satellite programming.

Coop adds:

Cable firms bought programming 'wholesale' and the larger their subscription audience, the less they paid per-cable-home, per-month, to firms such as CNN and ESPN. Inside the cable industry, this was one major factor driving smaller cable operators to sell-out or consolidate their holdings; a firm with 50,000 total subscribers was paying \$0.10 per month for CNN for each home while a smaller cable company with 500



subscribers was forced to pay \$1.00 per home. When a cable system carried twenty or more satellite services, the difference between \$0.10 and \$1.00 quickly amounted to a great deal of money.

"I was priced out of the market" recalls pioneer small town cable operator Kyle D. Moore. "My ten systems in Arkansas, Oklahoma, Texas and Kansas totalled just under 5,000 subscribers and I was paying 3 to 5 times as much for my satellite programming as the 150,000 subscriber system in Wichita. Indirectly, I was being forced to sell out to a larger cable operator and it all came down to the tiered pricing schedules created by the satellite programmers."

Cable that had expanded along upper New York State's highway 31A, or Ohio's 12, had the farm homes they passed with new cable extensions by the short hairs. The "rules" said you could not get a satellite subscription because cable ran by your farmhouse door. And because you were a "Rural Extension Cable Subscriber" your monthly fees approached the highest in the nation.

Tim adds:

Congressman Billy Tauzin (Louisiana) and Senator Al Gore (Tennessee) were amongst the small, but influential, elected leaders who saw the irony in the Cable Act of 1984. Gore would say during one of his frequent appearances on K-SAT, "None of us recognised what a plum was being handed to the cable programme controllers with the passage of The Act. We wondered at the time why their opposition to tacking this extra amendment onto The Act did not draw more strenuous opposition. We would later work out why - we had just handed them the future of the home dish industry and *their* plans included totally killing this potentially strong competitor."

Coop continues:

Congressional hearings, formal and attracting such personalities as the head of HBO Michael Fuchs followed, resulting in more than ten hours of coverage broadcast by C-SPAN (and others) allowing frustrated C-band dish owners to see who was "fer" and "agin" them, live and in real time. Fuchs went down as a footnote to history by insisting the Videocipher encryption system was "*unbreakable - if they (reference the world of pirates) can break it, I will give it to them!*" Of course it had already been broken, but Fuchs appearing in his \$2,000 tailored suit and Madison Avenue pomp won the day when ultimately Gore and Tauzin legislation designed to force "level playing fields for program sellers outside the grasp and control of cable operators" would fail.

None of this was occurring in isolation. While HBO had been testing the Videocipher encryption system during the last half of 2005, the mid-January launch of full-time encryption supported by a massive public relations effort landed on virtually all of the major network newscasts over the next few days sending tremors throughout the continent including several hundred thousand viewers owning C-band equipment in Canada, Mexico and further afield into the Caribbean and Central America. "*The Sky is falling*" was an oft-repeated headline and the suddenness of the public reaction was awesome in retrospect. Dealer storefront display centres went dark within a month and while only two channels were initially scrambled, the public had quite clearly understood the message: "*Within a year, 20 more, two years over 100 will be gone.*" So too were the potential customers for C-band

systems; a 93% drop in system sales month for month between February 1985 and 1986.

Dawson and Lamonica became "voices of last resort;" their nightly programs speaker-rattling messages of hope, covert planning (K-SAT) or absolute anarchy (Lamonica). For those two, three or four hours daily when their competitive shows were being transmitted, viewers in their thousands were giving up watching television which week by week was becoming thinner pickings anyhow, thanks to the encroachment of scrambling.

Tim adds:

In my own situation as chief engineer for the K-SAT army, 1987 was a convoluted time. Nobody ever worked out how to measure the size of the audience, but two+ million disenchanted and disenfranchised C-band dish owners was sizeable and if even 1% (20,000) tuned us in once a week, the radio service was gigantic and obviously growing. The attraction of both shows, as opposite as opposite could be in content, was quite what made owning a satellite dish a "world experience." While HBO + Cinemax were the first two (of ultimately the promised 100+) to adopt Videocipher encryption, through most of 1987 and even into the following year the vast majority of services (including competitive to HBO movie channels from Showtime) remained FTA. So in fact, the listener-participants in K-SAT's nightly tributes were not yet really suffering a dearth of programming. Rather, they were emotionally driven by the "evidence" (two had scrambled) and the night by night updated reports of which channels would be next to disappear.

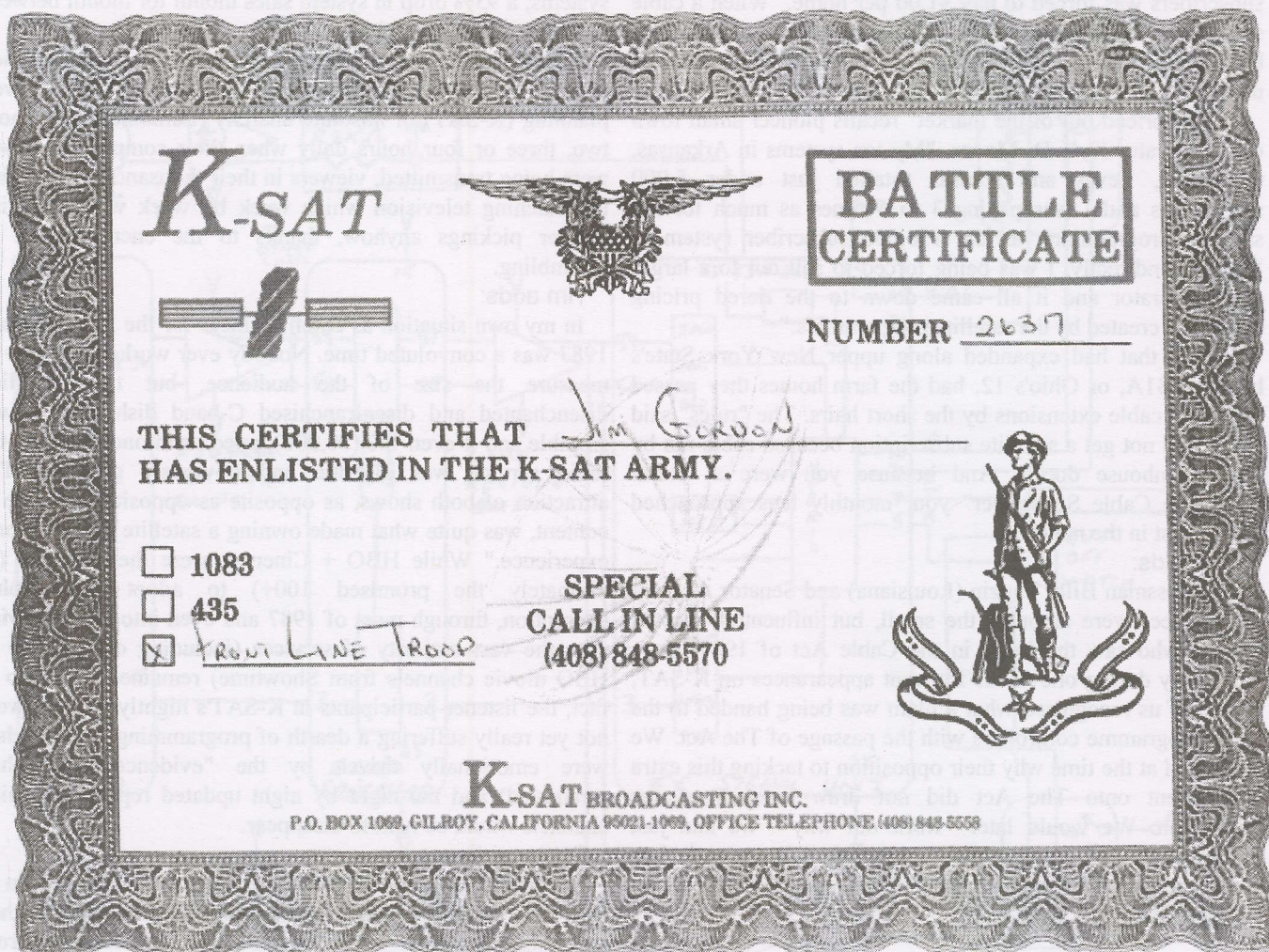
Coop continues:

Meanwhile the original satellite trade association, known as SPACE (Society Private And Commercial Earthstations) had collapsed with every indication sizeable funds collected from the membership had been squandered or outright misused. Only one of the SPACE hierarchy escaped vilification and he would return under the umbrella of SBCA (Satellite Broadcast Communications Association) that did everything SPACE had once claimed to do but with no direct, legal, responsibility for ex-SPACE. Amongst their activities, SBCA returned to Las Vegas for the annual (American) spring trade show where in years past more than 10,000 attendees had converged to waddle their way through as many as 1,000 product exhibit booths and 500 parking lot antennas. The reality that sales had dropped 93% from year-ago was only now catching up with dealers who lived by their credit cards. But those who attended SPACE 1986 in Vegas and SBCA 1987 in the same city quickly recognised the terrain had changed. Rather than 5,000 square foot display booths manned by slickly dressed folks from Kansas hawking the latest in 8 foot home dish technology, the primary commercial firms were folks like HBO and Showtime! Never before had programmers graced the home dish show arena - but here they were, handing out free T shirts, VHS promotional tapes, and battling to provide "free entertainment" featuring big name music acts such as The Bee Gees. In the few short months from the launch of HBO + Cinemax scrambling, the flavour of the industry had turned 180 degrees - from hardware to the software that made the hardware so valuable.

Tim again:

Not attending Las Vegas was a no-brainer for those who had suddenly become "over the air folk heroes." Lamonica, Dawson, and SBCA sponsored nightly talk show host Harry Thibodaux all descended on the transitional industry show.





Another of Dawson's meaningless but acknowledging pieces of paper - a "Battle Certificate" with a convenient check-off form - 1083 (big buck backers), 435 (responsible for one-on-one Congressional contacts) and (blank) - in this case 'Front Line Troop' - the K-SAT Army was on the march five or more nights each week!

Dawson brought in a mobile trailer studio but was banned from the official parking lot. No matter - he told listeners where to find his clandestine pirate radio station and they soon had him sourced. Nightly throughout the show, hundreds - even thousands at one point, milled around his portable studio shouting encouragement, whooping and hollering. Dawson turned the event into the second coming of Christ - one guess whom he emulated. To make his point about the need for clean, clear-cut legislation that would give home dish owners "an equal, unfettered opportunity to buy programming at a cable TV rate," he rounded up several of the by-then commonly available General Instrument piracy modified decoders. Climbing onto a makeshift outdoor stage he proceeded with great showmanship to make them all play on TV sets on the stage - clearly an act of civil disobedience if not outright illegality.

A short few hundred yards away, HBO was proudly showing off the same reception but on legally qualified decoders. And having been pre-warned about Dawson's "stunt" they were prepared using their best ECM technology to shut down the Dawson receivers. Only it did not happen - for Dawson had been careful enough to arrange that his piracy boxes were the latest of the latest, those a few days or perhaps no more than hours ahead of the counter-insurgency team from HBO. HBO to a press conference on-going simultaneously at their booth proceeded to shut down thousands of illegal receivers all over

North America, including several they claimed to have acquired in the "black market." Only a few hundred yards distant, Dawson's did not falter, sputter or shut down. HBO was clearly irked - they have been challenged in real time and their best technical minds came up short when competing with the brightest piracy creations.

But hold on a minute - was it not Lamonica who favoured the pirates and Dawson who was pressing for new legislation to make home dish users the equal of cable subscribers? Indeed it was - and once the circuit was connected, HBO knew their massive attempt to shut down illegal decoders had at least failed on a stage only a few hundred yards away. Lamonica the showman reached into the still functioning GI descrambler, twisted and torqued on a (U-30 socketed) memory chip and to the delight of his sizeable audience in Vegas and who knew how many more thousands at home listening on their satellite radios, HBO went away on the screen. He proceeded to physically destroy the chip while launching into a diatribe that called pirates everything but nice people. HBO had been tested and they lost this small engagement on an asphalt parking lot in Las Vegas. But for Chuck Dawson, it had been the magical trip of his already traumatic career. By every indication, the number of listeners he was reaching from that night onward doubled and then doubled again. The man was on a roll and as his totally volunteer, unpaid and usually unrewarded or



recognised technical right-arm, I was along for the ride - of my life!

Dawson's commitment was to keep K-SAT squeaky-clean : piracy, chipping, U-30 memory devices would only be discussed in the negative, any mention was to show their danger to a legal, legislative, solution to the "cable TV piracy threat" which the industry faced. His primary source of revenue, in hindsight, was perhaps not so squeaky-clean - but I hasten to add even as an insider working side by side with the man, I was not privy to the constant (and considerable) flow of checks that arrived daily. Dawson plead on the air, like a disciple of Christ nailed to a cross and next scheduled for public display, for funds. It did take money to keep the tiny station running, even if his secretary Kat and I saw nothing but crumbs from the plate he ate from nightly. His fans sent him five dollar bills, twenty dollar bills, checks for more. And items of clothing, even shoes and jackets - all he had to do was suggest he was "cold in the night air" from the Gilroy (California) always temporary studio, and within days the mail would be overflowing with donated jackets and clothing. The sheer mechanics of the response dictated yet a third move from his original bedroom - this time to a facility above a strip-mall in downtown Gilroy. With each move came new assessments of the audio equipment I had cobbled together to keep the telephone callers and the "star" separate and compandered individually.

#### Coop amplifies:

"Those no goods are taking away me and Melba's only entertainment" throatied a heavy smoker from southern Mississippi. "How we stop these guys?"

Chuck was quick - commenting first that if the caller didn't stop smoking cigarettes in such copious quantities, "Melba will be watching TV all alone soon." The caller coughed and nation-wide thousands heard his voice quiver.

"Melba and me are past 60 and we took out a loan on our shanty home to afford the ten foot dish and receiver propped up agin a fence post next to my outdoor facility."

"You mean your outhouse?" shot back Dawson.

"Yeah, well, that's a crude name for it. Down here in southern Mississippi we refer to it as 'The palace'."

And he coughed again into the handset.

"So how much you owe on this satellite dish system?" asked the host.

"Too damned much if those high falutin' movie rats in New York City cut us off and demand \$20 a month just to watch their crummy smut."

Dawson had a way of going to the core and crux of a caller's concern. When this particular listener would call in again, somehow getting through the dozens or hundreds already waiting in line to "go on the air," Dawson's near perfect memory would begin, "So pardner, you got a TV set in that outhouse yet or are you and the little woman still listening to me on that 1961 Zenith?"

The man was folksy while his "Rah-rah Pirates!" counterpart Keith Lamonica was rude and crude. And each attracted an audience that pretty much reflected their own on-air demeanours. The SBCA man, Harry Thibodaux, was a company policy parrot staying right on mark week after week following the dictums sketched for him by SBCA and more importantly HBO and their programming confederates. Harry was "plastic" and obviously reading from management's psalm book.

"Purchasing a GI descrambler and subscribing to the available cable programming is the best and most cost effective way to enjoy the investment you have made in a private satellite dish" he explained week after week, listing SBCA authorised equipment dealers, and interviewing officials from programming firms such as HBO and equipment suppliers who had signed onto the SBCA "save our satellites" promotion. It was not honesty's finest hour.

But Keith's show was a temptation to listen to only if you had been drinking heavily before it signed on and planned to continue downing Tequila for as long as you could stay coherent and tuned in. A sizeable percentage of his on-air callers reflected his total lack for sobriety or common courtesy. Some would call him primarily to "bait" his invectiveness - challenging him to launch into a tirade, an opportunity he seldom missed. Punctuated by (or built totally around) swear words and descriptions of callers in the most basic of corrupt terminology, Keith appealed to the base instincts and his listeners, hearing him do this, came back with even more foul-mouthed invectives. It was 'triple-X-rated' radio ten, twenty years ahead of its eventual dawning in America.

And of course all of this was for a cause - whether Thibodaux, Dawson or Lamonica, it was to somehow 'clear the air' and get two-million-plus American folks back to where they were January 14th, 2006; the day before HBO and Cinemax scrambled. Alas, of course, it was not to be.

#### Tim picks up the story:

For me it was very much like living in a war zone, I drove 70 miles each way from my Oakland home to Gilroy, twice weekly, and sometimes became so involved in a technical broadcast problem I simply curled up on a couch and "stayed over." I, Tim Alderman, was a "volunteer in the K-Sat Army" and while I usually did not leave 5 or 20 dollar bills laying in the 'donation cup' my presence made all of this and much more possible. Looking back, Dawson seldom if ever paid for any of the equipment we required - it would be donated, gleaned through ham radio circles, or he simply 'expected' me to somehow perform a miracle and find multi-band companders hanging on a tree or left carelessly in one of my legitimate client's workshops. I was a volunteer, you see. This was my calling.

If there was a reward, and it would be a stretch to call it such, there was my own 15 minutes of fame when the great man generously allowed me on the air to talk about my first and lasting love, record players. "Audiophile Crosstalk" had nothing to do with the waging TVRO wars; it was simply technology for the sake of itself. One of my favourite and regular guests was a chap named Mullins; a former US signal corpsman from World War Two.

Mullins in his own way had made history, quietly and without accreditation. Returning from WW2 and Germany, into his duffle bag he brought home a prototype German audio tape recorder at a time when the only recorders used long reels of steel wire as a recording medium. It didn't stay with him long - the American 'special forces' traced it to him and confiscated the gadget for further study. Corporate giant 3M was the benefactor of this cross-Atlantic heist and radio star Bing Crosby would go on to fund the commercial development of reel to reel tape recording - an event that ultimately changed the way American radio networks presented their evening



programming. The world needed more guys named Mullins; it still does.

And it ended as it had all began. The legislation created by Senator Gore and Congressman Tauzin lost in the U.S. Senate - *by two lousy votes*. Had it passed, the entire landscape for the selling of TVRO programming would have changed - for the better. *But it did not pass* and that left Lamonica's "Bring it on Pirates!" and Thibodaux's HBO funded calm voice of persuasion and reason to lead the lost sheep out of the wilderness.

Coop adds:

And of course Shaun Kenny, the TV show producer (Boresight and others) which to this day remain the most bewildering of all. Shaun's shows were decidedly anti-scrambling and he came down closer to Lamonica than Dawson. His most famous travesty lingers to this day as a vague, often mis-told memory. The creator of Videocipher, M/ACom, was Shaun's enemy from the first day they announced an encryption system. Why? Because only M/ACom distributors and authorised dealers would be allowed to sell *decoder-receivers*. And nobody else in a world which at the time had more than 70 receiver building firms (including such names as Sony, Panasonic, Zenith, even RCA) could sell HBO-Cinemax compatible receivers. Think of Ford designing a car using a new type of much coveted fuel, and then controlling the market so nobody else could manufacture similar technology cars - *after* taking over the petrol station world so that only *their* fuel could be sold. Hundreds of millions of cars - over two million satellite receivers - suddenly outdated and totally unable to upgrade. The only answer was to purchase a brand new M/ACom encryption compatible receiver (US\$900).

In effect, everyone else's receivers could not be used with Videocipher and M/ACom fully expected to be the sole source for home cable-encryption compatible receivers as more and more of the cable programmers switched on their own encryption encoders.

Shaun found this scenario "putrid" and in a very rare slip of the on-air tongue, even went so far as to lose his temper with a fiery burst of the "f word". Like the now famous movie line, "(Shaun) *was mad as hell and not about to take anymore of this!*"

To vent his anger, he abstractly fondled a M/A receiver and with the TV camera following behind, walked into a public men's loo. There he found a vacate urinal and turning the M/ACom product on its side, crammed it into the water flowing porcelain receptacle. The camera changed positions and from the rear you saw a stream of water, originating from Shaun, flowing over the top of the M/ACom product and in its yellow vitamin C laced totality, spraying into the vents and down the sides of the receiver.

Thus was "Yellow Rain" born on Boresight. Shaun will later in the program make a 3 minute piece out of wrapping up the urine soaked receiver to return it to M/ACom for "warranty repair." Posting the warranty repair return address on the screen for a full 30 seconds, one could not help but believe that all across America dozens, perhaps hundreds of viewers were at that very moment inserting their own VC2 receivers into a urinal and spraying them with their fluid. M/ACom, to put it very succinctly, "was not pleased" when their warranty repair centre awoke one morning to find a large stack of receivers each reeking with a smell that could only be one

thing - and not one of the packages included a return to sender address!

Shaun's impact on the industry was greater than K-SAT, SBCA, or Lamonica primarily because it outlasted them all and it was difficult to make a four hour radio talk-host show competitive to a well produced 60 minutes of Boresight television. But unfortunately for Shaun, he had two negatives that lasted until his premature death in 1992. First and foremost, Shaun was from New Jersey and his voice accent told everyone listening they were following a man who came from a disreputable segment of America. Listeners in Idaho may have followed his every breath and the pregnant pauses between words which often told you more than the words themselves. But at the end of the show, no matter how much they had learned or how hard they had laughed at his antics, he was "one of those Jersey-folks" and that cost him no small amount of credibility.

Second and equally troublesome to his on-air integrity, Shaun believed in maintaining high production standards. His weekly 60 minutes may have been videotaped in an ex-cow milking barn in rural New Jersey, but the on air product could in the best episodes be mistaken for something straight off a New York stage. Seemingly that would have been a *plus* factor; it was not. When combined with his Jersey-side voice accent, for the majority of Americans not living in and around New York City, it was a worry; the Milton Berle longevity problem 30 years after Uncle Miltie.

(K-SAT and Lamonica radio shows are in rare supply - approximately 30 separate shows are known to exist, all now converted to the MP3 format. But the "real" collectors have focused on Boresight [and other show titles such as "Green Sheets"] from Shaun Kenny. Several attempts at creating a master list have been challenged because only a handful of the shows, originally saved on VHS tape, are clearly dated - Shaun never saw a reason to number the shows in sequence nor to give an up front show air date. This leaves to "scholars" the task of dissecting the content, placing a "probable air date" on the program based upon content, and then trying to sort out that at least a percentage of the shows as preserved are individually incomplete and the original recording has stopped one show part way through and then tacked on a later show as if they were a single episode. "Yellow Rain" inclusive shows are especially in demand. Through a Canadian archiver, SatFACTS has obtained approximately 20 hours [the number slowly increases monthly] of the fabled Boresight/Green Sheets programs and DVD copies are available from an order form appearing on page 36, here. We caution in advance - VHS copies of VHS tapes ultimately remastered on DVD look only as good as the 25 year old tapes themselves - some are very good and a few are not.)

Tim Alderman comes to his own conclusions:

Meanwhile, back in California as Gilroy's K-SAT army folded into a distant horizon, I was left to ponder how and why three years of my life had been dedicated to support for what obviously was a losing cause from day one. In the end, in a day of long reflection, I came to the personal conclusion Chuck Dawson was no better (and no worse) than Keith Lamonica. I even came to the conclusion he was in fact a pirate - not of U-30 reprogrammed chips but of money. K-SAT's number one theme, hours per night, was the solicitation of money. As a "boss" he was very tight with



funds, usually certain that something that cost \$100 and was really important to his on air sound and dependability would somehow turn up - and more often than not, it did. But no proof do I have, nor actually ever searched for, that even a penny of all of those hundreds of thousands of donated dollars went to anything but the direct air-expense of the shows.

The 1989 SBCA Las Vegas trade show would be the last time I encountered the 'star' who so shaped my life for three years. By then he had turned into a two-headed man - off the air he sounded just as swear-a-lot - talk-little Lamonica; every other sentence included the "F" word. But on the air, right up to his April 1, 1989 sign-off, Dawson retained his pure ethics, clean language persona. He announced to the world in his last broadcast, *"I am moving my family to the pure aquifer waters of New Mexico."* In the end he was hawking a new electronic toy, the home satellite industry having deserted him following the failure of the U.S. Senate to approve the Gore bill. It was a voice command home theatre system - which unfortunately for him, did not work as advertised. Which basically said all that was needed about the man and his life.

TCI; the nation's largest (at the time) cable TV conglomerate. I had left Western Union as they faded into corporate history to work in TCI's downtown San Francisco facility. WTCI was the microwave arm of the cable firm. My boss knew and I believe understood I was a dish owner (obviously not a plus at TCI) and worse than that, a satellite activist. Eleven days after TCI, in a tax loop-hole move, repurchased their previously owned WTCI microwave unit, my boss appeared from his office 100 miles away. And as it

turned out, his boss, from Colorado, was also in town. I soon learned why - between them they had fabricated an untrue story about my allowing a subcontractor into our secure zone which instantly became a reason to fire me. It was all a crock of cow poo of course - someone had pointed out my involvement in the K-SAT world and that was all it took - I was a black man working in a white man's world and my whitewash had just washed away!

Eighteen years have flown by and doom and gloom have flitted in and out of my life crowding out the fading memories of Shaun, Keith, Chuck and that man named Thibodaux. I was reminded of all of this recently while working my way through 30 years of electronic collectables in the garage. There I discovered the K-SAT rack of hybrids and noise cancelling echo processors, which if a suitable museum existed I would quickly ship to. Alas, those of us who can even spell C-Band without a mistake are diminishing each year and what we individually have remaining are memories. Still, I have to wonder whether Chuck Dawson found "clean, pure water in New Mexico." It is one of those unanswered questions I will not lose sleep over!

(Coop's note: Chuck Dawson is in fact alive, and in New Mexico where he and wife Trish, *"a husband and wife team working together for more than 25 years,"* according to their joint web-site, are in the big-buck real estate biz.. Trish turns out to be an attorney, and they sell real estate to monied clients [their firm outsold all others in the state in a recent year]; it never hurts to have an attorney in conjugal attendance of course.)

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#### The "status" of piracy in North America - June 2007

(Report prepared by LD, Ohio)

"Coop asked if an overview summary of the current status of satellite piracy in North America might be prepared. It is important to me to state I am not a pirate, have never been, but in my professional capacity involved in the TV distribution world throughout North America and frequent travels coast-to-coast I have many opportunities to see and inspect the handiwork of others, and judge the level of impact these anti-social folks are having on the TV scheme here (USA and Canada and Caribbean).

**"Videocipher was always** a 'soft-video' encryption with very challenging audio. Even a half-intelligent person could sort out the video and shortly after the first scrambling began there came a flood of small boxes on offer for under \$100 which accomplished just this. I have reviewed advertisements on Boresight and Keith Lamonica offering these gadgets - many of which included a non-binding 'promise' - *"Audio coming soon."* Of course it did not, not with an external box at any rate. And that begot the 'chippers' who found ways to go internal to the VC2 module and change ICs and software programming to extract unscrambled reception without payment.

**"VC2 was compromised** in so many ways by so many people that (seller) GI had little choice but to go back to the drawing boards - begetting the VC2+. Consumers were given several opportunities to 'trade in' their VC2 modules for VC2+ modules provided only the VC2 was 'factory original'. For several years, until perhaps 1989 late, the VC2+ remained impenetrable. And a lesson had been learned - VC2 compromises became a 'commodity' and because of wide dissemination of 'how-to' material on Boresight (and others) - when VC2+ was 'broken' those who created the penetration simply shut up and enjoyed it as a private privilege. One Canadian source attempted to market a 'VC2+ fix' and was promptly viewing the world through a set of steel bars. Today, I understand the number of still functional VC2+ user boxes has dropped below 100,000 (from an all time high of between 1.5 and 2 million) and the analog format of the service has become a terrible financial burden on programmers, by now reaching a relatively small number of paying clients. I have visited with VC2+ 'pirates' - the kind who have no involvement in or interest in sharing their skills for fees - and given the inevitable shut-down of all VC2+ services within the next 6-24 months, it seems unlikely the present 'private VC2+ club' will ever release their knowledge. What this may suggest is the economics have been wrong - too few potential customers for a product of limited interest and if there was large scale VC2+ piracy, that would only hasten the day when those few remaining VC2+ services would shut down - permanently; biting the hand that feeds you, as it were.

**"Now as to the status** of the Ku band competitive services (DISH TV and DirecTV), and the two Canadian counterparts. DirecTV is essentially piracy-free for the last three years or so after a nation-wide rash of publicity pointing out how MOSC cards had become common items in commerce. The schemes that (today) allow penetration of DirecTV are complex involving a full-time PC and acceptance of many frustrating hours 'playing' with the system. There is nothing 'commercial' in this area presently.

**"Nagra**, on the other hand (used by DISH Network) is totally compromised with the same kind of consumer



involvement as typified the peak period for the VC2. DISH makes periodic public forays after large scale or high profile suppliers of the card-beating technology, almost always wins in court and the logger-heads who are so nailed end up facing huge multi-million dollar fines and extended periods of federal detention. Still, the overwash of 'beating Nagra' continues mostly out of control not only in North America (DISH and Canadian ExpressVu) but throughout Europe as well.

**"Dumps of the Nagra smartcards** are available on the Internet, the software and technology to break the system, at sites such as <http://www.rom10x.com>, <http://id-discussions.com> and <http://www.real2a.com>. Most who use these sites establish a hotmail address because when similar pioneering sites were 'busted' by the authorities, those who left a telltale trail with their computer address were shortly visited by federal authorities. Perhaps the problem facing Nagra's encryption users comes down to the overall system design - there are several, each functional and all comparable, techniques for obtaining both services. Amongst those techniques are:

**"1/ Reprogramming** the original Dishnetwork card using purpose designed ISO 7816 equipment;

**"2/ Simulators such as** Atmegas, AVR cards, Syndrome Cards, Armulator Cards. There are quite a few replacement circuit boards available to use in place of the original Nagra Smartcard. Amega cards sell for around US\$20-30 these days and it is a pretty small price to pay for breaking a multi-million dollar encoding system.

**"3/ Emulator Card** - this involves putting a circuit board that is the same physical size as the original smartcard and running a cable to the PC which does the decoding. This is not a popular 'fix' because it requires a dedicated PC 24/7. There is a warning here - some designs on the market emit a tiny pulse of energy at 121.5 MHz every 2 or 3 seconds while decoding and there could not be a worse scenario for staying undetected; this is the world-wide emergency 'May Day' radio call frequency, monitored 24/7 at thousands of locations. This is akin to walking into a police station, pulling a handgun and demanding all of the cash on hand. Wrong place, wrong business plan.

Urban legends report some people have actually gone to jail because of this.

**"4/ Free-to-air receivers.** This is the latest 'gee whiz' scenario and I am personally happy that nobody has assigned to me the task of correcting it. Stand-alone FTA receivers are available world-wide. Alas, they can be re-flashed to incorporate code that will decrypt the signal. Receivers can be found for as little as US\$25 (Satpro model DSR-500S) up to the \$100 region (Fortec Lifetime Ultra, Fortec Mercury II, Pansat and their clones, Viewsat and many others). Viewsats appear to be the most popular in Canada and this is possibly because they offer excellent 'support' to customers. With this technique, you need support. For example, around ten months ago DISH and ExpressVu started using hidden map calls which instantly took down all of the FTA modified receivers. Viewsat, according to industry legend, was able to acquire a dump of 'the map' (for it is said a large sum of money) and that gave them a two week lead on the other brands and models. Alas, as befits the situation, somebody then posted the mapping data on the Internet and shortly all of the receiver competitors were providing re-flashing code twice stolen - once from Nagra and then from Viewsat (thieves stealing from thieves). When this has been done, essentially all of the service channels suddenly become FTA, including the PPV movies. Many of these FTA receivers have the in-built ability to download from one receiver to another using a null modem cable, eliminating the need for a computer to download the re-flashed data to a second (etc.) unit. There is, needless to report, a great deal of 'buddy-loading' between friends, neighbours. On the other hand, the computer with Internet sourced re-flashed material is not all that complicated - a 9 pin serial cable connection and the reloading requires under 5 minutes.

**"Occasionally Dishnetwork** and ExpressVu will do electronic countermeasures (ECM) to stop these devices from working, but the penetration is now so large in North America that there are tens of thousands of 'code breakers' beaver away and within 24 - always within 48 - hours the fixes appear and after a reload everyone is back operating again. My sources tell me things on the ECM front have been quiet for several months. Late in May, ExpressVu even took the map calls out of the data stream suggesting a new major effort might be coming at any point.

**"The marketplace in Canada** is the most contentious largely due to the Canadian mindset. They have been watching American satellite TV from 1977 (Rod Wheeler, shortly David Brough) and until well after year 2000 their "permission" to do so came from a large number of Canadian court rulings that essentially said to complaining American programmers - *'Get stuffed. You are not a Canadian corporation and you have no legal rights here.'* A post-2000 reversal of this by the highest court in Canada left hundreds of thousands of disenfranchised viewers watching (at the time) DirecTV, DISH or even the last remaining analogue VC2+ services. One has but to drive through southern Ontario, barely into the country from Detroit, to conduct a survey - dishes pointed at, installed for Dishnetwork are quickly located. It comes to no less than 1 in 10 even today and in some areas where support for FTA re-flashed receivers is done by established support firms, that number climbs rapidly.

**"Still, as DirecTV has proven,** poorly designed encryption systems can be corrected and piracy can be brought under control. There is apparently a rule of economics at work here which forces encryption firms to clean up their mistakes. DirecTV found the will to correct after the vulnerability became so prolific that radio disc jockies were telling jokes about it and newspapers devoting front page space to the situation. Adverse publicity obviously can shame even the most penny pinching firm to re-evaluate how they conduct business. What it will take for Nagra to do so is unknown."

Coop's postscript: It may be a coincidence, but in the past whenever we publish a report (without regard to the content) concerning piracy status, corporate eyebrows around the world are raised and sooner than later a renewed anti-piracy effort is fielded. Yes, it is a tender subject, yes it does cause some people to develop a headache and responding in kind is the usual response. This time - for once - let's be a little thicker skinned.



# SatFACTS Pacific/Asian MPEG-2 Digital Watch: 15 June, 2007

| Bird          | Service             | RF/IF<br>&Polarity                | # Program<br>Channels | FEC | Msym     |
|---------------|---------------------|-----------------------------------|-----------------------|-----|----------|
| Them5/78.5    | SkyChAust           | 3695/1455H                        | up to 3               | 3/4 | 5(,000)  |
|               | ANT Greece          | 3672/1478H                        | 1 TV                  | 3/4 | 13(,333) |
|               | TARBS ME mux        | 3640/1510H                        | 12TV, 12 radio        | 2/3 | 28(,066) |
|               | Ch Nepai            | 3626/1524V                        | 1                     | 3/4 | 15(,556) |
|               | Mahar mux           | 3600/1550H                        | 11TV, 1 rad           | 3/4 | 26(,667) |
|               | RR Sat mux          | 3551/1600H                        | 8TV, 10 radio         | 3/4 | 13(,333) |
|               | TVK Cambodia        | 3448/1702H                        | 1TV                   | 1/2 | 6(,312)  |
|               | TARBS/Th5           | 3480/1670H                        | 12 TV+radio           | 2/3 | 26(,667) |
|               | Thai Global         | 3425/1725V                        | up to 7?              | 2/3 | 27(,500) |
| InSat 2E/83   | ETV mux             | 4005/1145V                        | 6+ TV                 | 3/4 | 27(,000) |
|               | Hyd Dig 2E          | 3910/1240V                        | 1                     | 3/4 | 5(,000)  |
|               | Kairali TV          | 3699/1451V                        | 1                     | 3/4 | 3(,184)  |
|               | Indian mux          | 3643/1507V                        | 3                     | 3/4 | 19(,531) |
|               | Sky Bangla          | 3430/1720V                        | 1TV                   | 3/4 | 6(,000)  |
| NSS6/95E      | Ant Pac (Greek)     | 11,104H-Australia                 | 1 TV                  | 3/4 | 2(,800)  |
| As2/100.5E    | Guangdong TV        | 4075/1075H                        | 1TV + radio           | 3/4 | 6(,000)  |
|               | Euro Bouqt          | 4000/1150H                        | 5TV, 19 radio         | 3/4 | 28(,125) |
|               | SatLink             | 3960/1190H                        | 3TV                   | 3/4 | 27(,500) |
|               | Reuters News        | 3905/1245H                        | 1TV                   | 3/4 | 4(,000)  |
|               | WorldNet            | 3880/1270H                        | 4+/18radio            | 1/2 | 20(,400) |
|               | APTN Asia           | 3799/1351H                        | 1                     | 3/4 | 5(,632)  |
|               | Reuters/Sing.       | 3775/1375H                        | 1                     | 3/4 | 5(,631)  |
|               | Macau MUX           | 4148/1002V                        | 5TV                   | 3/4 | 11(,850) |
|               | Dubai MUX           | 4020/1430V                        | 4+, radio             | 3/4 | 27(,500) |
|               | Russian/Israel      | 3832/1318V                        | up to 4 video         | 3/4 | 7(,271)  |
|               | ArabSat#2           | 3820/1330V                        | 8+ video?             | 3/4 | 27.5     |
|               | Trace TV            | 3792/1358V                        | 1                     | 3/4 | 2(,400)  |
|               | BYU-TV              | 3767/1383V                        | 1 + 20 audio          | 1/2 | 6(,530)  |
|               | 3-ch miniMUX        | 3752/1398V                        | up to 3               | 3/4 | 5(,640)  |
|               | Saudi TV1           | 3660/1490V                        | 7+tests               | 3/4 | 27(,500) |
| Express2/103E | Various-tests       | 3675/1475R                        | 2                     | 3/4 | 4(,340)  |
| As3S/105E     | Chinese regionals   | 3671/1471V                        | 2                     | 3/4 | 8(,932)  |
|               | CETV digital        | 3680/1470H                        | 1+ TV                 | 3/4 | 26(,670) |
|               | Zee bouquet         | 3700/1450V                        | 10TV                  | 3/4 | 27(,500) |
|               | Ch News Asia        | 3706/1444H                        | 1TV (+)               | 3/4 | 6(,000)  |
|               | Azio TV             | 3716/1434H                        | 1TV (+)               | 3/4 | 7(,000)  |
|               | BTW World           | 3725/1425V                        | 1TV                   | 3/4 | 4(,450)  |
|               | TVB 8               | 3729/1421H                        | 1TV                   | 3/4 | 13(,650) |
|               | Zee Movies          | 3732/1418V                        | 3TV                   | 3/4 | 6(,500)  |
|               | TV One              | 3739/1411V                        | 1TV                   | 3/4 | 2(,8934) |
|               | SAB TV              | 3743/1407V                        | 1TV                   | 3/4 | 3(,300)  |
|               | Fashion TV          | 3747/1403V                        | 1TV                   | 3/4 | 2(,625)  |
|               | AAJ-TV              | 3750/1400V                        | 1TV                   | 3/4 | 2(,820)  |
|               | Airrang TV          | 3755/1395V                        | 1                     | 7/8 | 4(,418)  |
|               | Now TV +            | 3760/1390H                        | up to 10TV            | 7/8 | 26(,000) |
|               | Star TV             | 3780/1370V                        | 7(+TV)                | 3/4 | 28(,100) |
|               | GXTV                | 3806/1344V                        | 1TV + 3 radio         | 3/4 | 4(,420)  |
|               | Shaanxi TV          | 3813/1337V                        | 1TV + 2 radio         | 3/4 | 4(,420)  |
|               | Anhui TV            | 3820/1330V                        | 1TV + 2 radio         | 3/4 | 4(,420)  |
|               | Jiangsu TV          | 3827/1330V                        | 1TV + 2 radio         | 3/4 | 4(,420)  |
|               | HLITV               | 3834/1316V                        | 1TV                   | 3/4 | 4(,420)  |
|               | Star TV             | 3840/1310H                        | 7(+TV)                | 7/8 | 26(,850) |
|               | Star TV             | 3860/1290V                        | 5(+TV)                | 3/4 | 27(,500) |
|               | Dragon TV           | 3886/1264V                        | 1 TV                  | 3/4 | 4(,800)  |
|               | Shaandong           | 3895/1255V                        | 1TV + 6 radio         | 3/4 | 6(,813)  |
|               | CCTV1               | 3904/1246V                        | 1TV, 1 radio          | 7/8 | 4(,420)  |
|               | Jilin TV            | 3914/1236V                        | 1TV + 2 radio         | 3/4 | 4(,420)  |
|               | Star TV             | 3920/1230H                        | 4+ TV                 | 7/8 | 26(,850) |
|               | CNNI                | 3960/1190H                        | 8TV, 1 radio          | 3/4 | 27(,500) |
|               | StarTV              | 3980/1170V                        | 6+TV                  | 3/4 | 28(,100) |
|               | Star TV             | 4000/1150H                        | 8(+TV)                | 7/8 | 26(,850) |
|               | Sahara digital      | 4020/1130V                        | 8TV, 1 radio          | 3/4 | 27(,250) |
|               | Hubei TV            | 4035/1115H                        | 1TV + 2 radio         | 3/4 | 4(,420)  |
|               | Tianjin TV          | 4046/1104V                        | 1TV + 2 radio         | 3/4 | 5(,950)  |
|               | Sichuan TV          | 4051/1099H                        | 1TV + 1 radio         | 3/4 | 4(,420)  |
|               | Qinghai TV          | 4067/1083H                        | 1TV + 2 radio         | 3/4 | 4(,420)  |
|               | Hunan TV            | 4082/1068H                        | 1TV + 1 radio         | 3/4 | 4(,420)  |
|               | Fashion/HK-Asia     | 4088/1062H                        | 1TV                   | 3/4 | 2(,626)  |
|               | Pakistani TV        | 4091/1059V                        | 4TV, 1 radio          | 3/4 | 9(,330)  |
|               | Sun TV              | 4095/1055H                        | 1                     | 3/4 | 5(,554)  |
|               | PTV National        | 4106/1044V                        | 1TV, 1 radio          | 3/4 | 3(,333)  |
|               | TVB8 Mux            | 4111/1040H                        | 4 TV                  | 3/4 | 13(,650) |
|               | Indus News          | 4115/1035V                        | 1                     | 3/4 | 3(,331)  |
|               | CCTV bqt            | 4129/1021H                        | 4 TV, 4 radio         | 3/4 | 13(,240) |
|               | Zee Bqt #2          | 4140/1010V                        | 8(+TV)                | 3/4 | 27(,500) |
|               | Henan TV            | 4166/984V                         | 1TV + 8 radio         | 3/4 | 4(,420)  |
|               | Fujian TV           | 4180/970V                         | 1TV + 2 radio         | 3/4 | 4(,420)  |
|               | Jiangxi TV          | 4187/963V                         | 1TV + 2 radio         | 3/4 | 4(,420)  |
|               | Liaoning TV         | 4194/956V                         | 1TV + 2 radio         | 3/4 | 4(,420)  |
| Cak1/107.5    | Indovision (S-band) | 2,535, 2,565, 2,595, 2,625, 2,655 | 33(+TV)               | 7/8 | 20(,000) |
| T'Kom/108E    | IndoBqt             | 3460/1690H                        | up to 6               | 3/4 | 28(,000) |
| C2M/113E      | TPI                 | 4185/965V                         | 1                     | 3/4 | 6(,700)  |
|               | Anteve              | 4144/1006V                        | 1                     | 3/4 | 6(,510)  |
|               | Kabelvision Mux     | 4080/1070H                        | 7+ TV                 | 7/8 | 28(,125) |
|               | Indostar            | 4074/1076V                        | 1                     | 3/4 | 6(,500)  |
|               | SCTV                | 3934/1216H                        | 1                     | 3/4 | 6(,620)  |
|               | Indo MUX            | 3880/1270H                        | 3+ TV                 | 7/8 | 28(,121) |
|               | TVRI                | 3765/1385H                        | 1TV                   | 3/4 | 5(,555)  |

## Receivers and Errata

|                                                    |
|----------------------------------------------------|
| CA (#1, 3); FTA audio #2                           |
| Late July 04: room for more (FTA)                  |
| CA + 23FTA(A1TV, IRB3, Vision Norge,Pakistan)      |
| New 03/03; FTA                                     |
| Thai + Indian services; FTA inc. Vibe TV, Sindh TV |
| 3TV, Sradio inc. Hellas TV Greece FTA              |
| FTA                                                |
| 3FTA: TV5, VTV4, ATN Bangla                        |
| FTA (reaches SE Australia)                         |
| Several ETV now here, wide beam                    |
| SCPC, OK E. Aust. wide beam                        |
| SCPC, OK E. Aust wide beam                         |
| corrections 12/02                                  |
| New - November 2002                                |
| Now CA; was 11.083H                                |
| July 04: FTA                                       |
| FTA TV + radio, Russia,Port,Spain, Italy/Euro Bqr  |
| Real Madrid (V769, A770) English FTA               |
| Was 3923H; sometimes FTA                           |
| FTA; multiple audio services V2360, A2320          |
| Sometimes FTA; also 3895Vt                         |
| FTA & CA                                           |
| 5 chs TV, FTA, some tests                          |
| FTA ; Dubai Sports Ch some English, soccer-        |
| Two Israel, two Russian (REN-TV)                   |
| New 107-06; 10 FTA here                            |
| new here Dec 2004; Euro-French music videos        |
| Increased coverage, great variety audio chs(03-05) |
| Sun-TV, Surya TV, KTV (FTA)                        |
| FTA MCPC; Yemen, MBC EUROsport tests               |
| Now loaded from 96.5E; svrl below 3900 all RHC     |
| New 07-06; Yanbian, Jilin Satellite TV             |
| replaces analogue same freq; V33, A32              |
| Now SECA 2 CA (10-04); Radio Aust. Eng. A2011      |
| English + V1160, A1120; 525, 625 versions          |
| Was parallel to 3640Hz analogue (now gone)         |
|                                                    |
| Conax CA, all Hindi films                          |
| Also reported 3.333, 3/4 October 2005              |
| SAB may no longer here here; moved to NSS-6?       |
| new frequency October 2005                         |
| New April 2005; English, urdu                      |
| FTA SCPC; New PIDs V3601, A3606 June 2003          |
| CA + 10 FTA; DW, TV5; Al Jazeera English           |
| NDS CA (Pace DVS211, Zenith)                       |
| Guangxi TV; was As2                                |
| Was As2                                            |
| Was As2                                            |
| Was As2                                            |
| Was As2; HeiLong                                   |
| NDS CA (Pace DVS211, Zenith)                       |
| NDS CA (Pace DVS211, Zenith)                       |
| Shanghai                                           |
| Apparently Mongolia                                |
|                                                    |
| PowVu CA; new SR Apr 29; CNN radio FTA             |
| NDS CA; Star News India FTA VPID 514, APID 648     |
| NDS CA w/ 4(Chinese) FTA                           |
| New Sr September 2004                              |
| Was As2                                            |
| new December 2004                                  |
| Was As2                                            |
| Was As2                                            |
| Was As2                                            |
| New July 2005                                      |
| new Sr, channels, April 2006                       |
| "History Channel" - SCPC, some English             |
|                                                    |
| MATV Ch Movies now Irdeto 1                        |
| Hindi (+ "Plus"); day parts                        |
| moved from 4115                                    |
| Now SECA 2 CA (10-04); 1 occ. FTA (varies)         |
| Was As2                                            |
| Was As2                                            |
| Was As2                                            |
| Was As2                                            |
| NDS CA using RCA/Thomson,                          |
| Pace IRDs; 2,535 has 2 FTA. Bird now inclined.     |
| also 3586H/17,500, 3496H/19,615                    |
| FTA SCPC; NT/NC only                               |
| change from 4055V; FTA SCPC                        |
| also try 3500H, 27,000, 3/4; strong NZ             |
| New (but probably temporary) 07-06                 |
| FTA, may not be active full time                   |
| FTA; Sr change 01/03; erratic                      |
| bounces btwn FTA and CA; unreliable (12-04)        |



| Bird     | Service           | RF/IF & Polarity | # Program Channels  | FEC       | Msym       |
|----------|-------------------|------------------|---------------------|-----------|------------|
|          | SCTV              | 3726/1424V       | 1TV                 | 3/4       | 6(620)     |
|          | RCTI              | 3473/1677H       | 2                   | 3/4       | 8(000)     |
| As4/122E | CCTV MCPC         | 3820/1330V       | 8                   | 3/4       | 27(500)    |
| Jc3/128  | Miracle Net       | 3996/1154V       | 3 up to 6           | 5/6       | 22(000)    |
|          | Asian bgt         | 3960/1190V       | up to 8             | 7/8       | 30(000)    |
| Ap6134E  | Multiple          | 4140/1010V       | up to 8             | 7/8       | 27(500)    |
| T18/138  | Tests             | 3460/1690V       | 8                   | 3/4       | 30(000)    |
| Am3/140  | STS +             | 3731/1419R       | 1                   | 3/4       | 3(200)     |
| Jc2A 154 | BYU-TV            | 3915/1245V       | 1+ 20 languages     | 3/4       | 4(166) (?) |
| MeasSs2  | Astro Mux         | 11.602H          | up to 17TV          | 3/4       | 41(500)    |
| B3/152   | 7 Cent. Feed      | 12.310H          | 1TV                 | 3/4       | 5(100)     |
|          | AuroraBiz         | 12.407V          | 4 TV, 10 radio      | 2/3       | 30(000)    |
|          | UBI               | 12.425V          | up to 13 TV + radio | 3/4       | 22(500)    |
|          | GlobeCast 2       | 12.525V          | 13 TV, 8 radio      | 2/3       | 30(000)    |
|          | GlobeCast (feeds) | 12.550-555V      | 1TV                 | 3/4 & 2/3 | 6(110/670) |
|          | GlobeCast         | 12.564V/T13      | 2+ TV               | 2/3       | 30(000)    |
|          | UBI               | 12.613H/T14L     | 11+TV               | 3/4       | 22(500)    |
|          | UBI               | 12.640H/T14U     | 11+TV               | 3/4       | 22(500)    |
|          | GlobeCast 1       | 12.658V/T7       | 14TV, 15 radio      | 2/3       | 30(000)    |
|          | UBI               | 12.674H/T15L     | 11+TV               | 3/4       | 22(500)    |
|          | UBI               | 12.701H/T15U     | 11+TV               | 3/4       | 22(500)    |
|          | WA ABC            | 12.702V          | 1 TV, 1 radio       | 7/8       | 14(288)    |
|          | WA SBS            | 12.720V          | 4TV, 2 radio        | 5/6       | 12(600)    |
|          | WA GWN/WIN        | 12.738V          | 2TV                 | 7/8       | 14(295)    |
| C1/156E  | Aurora            | 12.324V/T1U      |                     |           |            |
|          | Pay TV            | 12.365V/T2       | 11TV, 2 radio       | 3/4       | 27(800)    |
|          | Aurora Home       | 12.407V/T3       | 5 TV, 13 radio      | 2/3       | 30(000)    |
|          | Pay-TV            | 12.447V/T4       | 5TV, 4 data         | 3/4       | 27(800)    |
|          | Pay TV            | 12.487V/T5       | 3+ TV, data         | 3/4       | 27(800)    |
|          | Aurora 2          | 12.527V/T6       | 7TV, 20 radio       | 3/4       | 30(000)    |
|          | Pay-TV            | 12.567V/T7       | 10 TV               | 3/4       | 27(800)    |
|          | Pay-TV            | 12.607V/T8       | 10 TV               | 3/4       | 27(800)    |
|          | Pay-TV            | 12.647V/T9       | 10 TV               | 3/4       | 27(800)    |
|          | Pay-TV            | 12.692V/T10L     | 6TV, 27 radio       | 1/2       | 28(650)    |
|          | Aurora MUX        | 12.728V/T10U     | 4TV, 17 radio       | 1/2       | 24(450)    |
|          | Austar            | 12.305H/T11      | 6TV, 24 data        | 3/4       | 30(000)    |
|          | Pay-TV            | 12.358H/T12      | 10 TV               | 3/4       | 27(800)    |
|          | Pay-TV            | 12.398H/T13      | 10 TV               | 3/4       | 27(800)    |
|          | Pay-TV            | 12.438H/T14      | 6TV, 3 data         | 3/4       | 27(800)    |
|          | Pay-TV            | 12.478H/T15      | 10 TV               | 3/4       | 27(800)    |
|          | Pay-TV            | 12.518H/T16      | 10 TV               | 3/4       | 27(800)    |
|          | Pay-TV            | 12.558H/T17      | 10 TV               | 3/4       | 27(800)    |
|          | Pay TV            | 12.598H/T18      | 10 TV               | 3/4       | 27(800)    |
|          | Pay-TV            | 12.638H/T19      | 10TV, 30 radio      | 3/4       | 27(800)    |
|          | Pay TV            | 12.688H/T20      | 11TV                | 3/4       | 27(800)    |
| D1/160E  | Sky NZ test       | 12.394V          | TV +                | 3/4       | 22(500)    |
|          | SBS SE            | 12.451H          | TV+                 | 5/6       | 12(600)    |
|          | Sky NZ            | 12.519V          | TV+                 | 3/4       | 22(500)    |
|          | Sky NZ test       | 12.519H          | TV+                 | 3/4       | 22(500)    |
|          | ABC NSW           | 12.514H          | TV                  | 7/8       | 14(294)    |
|          | ABC South         | 12.532H          | TV                  | 7/8       | 14(294)    |
|          | ABC Northern      | 12.550H          | TV                  | 7/8       | 14(294)    |
|          | ABC Western       | 12.577H          | TV                  | 7/8       | 14(294)    |
|          | ABC Victoria      | 12.595H          | TV                  | 7/8       | 14(294)    |
|          | ABC Qld           | 12.613H          | TV                  | 7/8       | 14(294)    |
|          | Southern Cross    | 12.744V          | TV + 1 radio        | 3/4       | 5(100)     |
|          | Sky NZ Test       | 12.644V          | TV                  |           |            |
| 18/166E  | SelectTV          | 12.526H          | 8+TV                | 3/4       | 28(800)    |
|          | CCTV              | 12.557H          | 3+TV                | 3/4       | 13(240)    |
|          | ABS-CBN           | 12.575H          | 4+TV, 4+ radio      | 2/3       | 13(845)    |
|          | MYSAT             | 12.646H          | up to 8 TV          | 3/4       | 28(066)    |
|          | JEDI/TVB          | 12.686H          | 11+ TV              | 3/4       | 28(126)    |
|          | PnGlobal Aust     | 12.726H          | 6+TV                | 3/4       | 28(066)    |
|          | ABC A-P           | 4180/970H        | 2TV, 2 radio        | 3/4       | 27(500)    |
|          | Hallmark Asia     | 4166/984H        | 1 TV                | 3/4       | 6(620)     |
|          | Disney Pac        | 4140/1010H       | typ 6 TV            | 5/6       | 28(125)    |
|          | Hwazen TV         | 4130/1020H       | 1 TV                |           |            |
|          | NHK Joho          | 4060/1090H       | 7TV, 1 radio        | 1/2       | 16(180)    |
|          | FOX Mux           | 4040/1110V       | up to 5TV           | 7/8       | 26(470)    |
|          | NET +             | 4121/1029V       | 1 TV                | 3/4       | 4(774)     |
|          | ESPN USA          | 4020/1130H       | 8+TV, data          | 3/4       | 26(470)    |
|          | Discovery         | 3980/1170H       | 8 typ.              | 3/4       | 27(690)    |
|          | CalBqt/Pas8       | 3940/1210H       | up to 3+ FTA        | 7/8       | 27(690)    |
|          | CNBC HK           | 3900/1250H       | up to 7TV           | 3/4       | 27(500)    |
|          | FilipinoMUX       | 3880/1270V       | up to 8TV+radio     | 5/6       | 28(694)    |
|          | CCTV Mux          | 3829/1321H       | up to 4 + 1 radio   | 3/4       | 13(240)    |
|          | TVBS-N            | 3836/1314V       | 1FTA, 4+ CA         | 3/4       | 17(500)    |
|          | EMTV PNG          | 3808/1342V       | 1 + 2 radio         | 3/4       | 5(632)     |
|          | CNNI              | 3780/1370H       | 3, up to 5 TV       | 3/4       | 25(000)    |
|          | Discovery Asia    | 3764/1386V       | Up to 6 TV          | 3/4       | 19(850)    |
|          | MTV               | 3740/1410H       | 8                   | 2/3       | 27(500)    |
| 12/169E  | WA Mux Pv         | 12.281V          | 3+ TV, radio        | 2/3       | 27(500)    |
|          | Ariang TV         | 12.401V          | 1TV                 | 3/4       | 4(400)     |
|          | ABS-CBN           | 12.575H          | 4TV, 2 radio        |           | 13(845)    |
|          | Test mux          | 12.715H          | 6+ TV               | 2/3       | 30(000)    |
|          | TARBS feeds       | 4090V/1060V      | 9TV + radio         | 3/4       | 21(000)    |
|          | BBC SCPC          | 3986/1164H       | 1TV                 | 1/2       | 5(700)     |
|          | Middle East       | 3836/1314V       | 4 typ               | 3/4       | 13(331)    |

## Receivers and Errata

was on 4048V; New Caledonia, parts of Australia  
 FTA SCPC; or, 3774H, 6.520, 3/4 (June 06)  
 also: 3940V, 4100Vin blindscan  
 PowerVu; some FTA (Ch. 1 & 3)  
 CA & FTA NTSC: Japan, Taiwan  
 scan 3500-4200 V+H; analogue 3860V  
 also try 3660/3540V, Sr 30.000, 3/4; some FTA  
 North beam; also try 3875R, 12.475, 1/2  
 Strong NZ & Australia; may now be 1/2, 6.525  
 Aust East beam - 3 FTA + 14 CA  
 Was B1; moved June 2006, concerns B1 failures  
 differs from 12.407 C1; tune ch FTA; NZ+Au  
 Now Irdeto V2  
 NZ + Au, FTA + Mcript CA  
 occ feeds, NZ + Au; recently 12.553V  
 AMTV, Healing only FTA svcs now here  
 High performance beam; not NZ; new CA 07-06  
 High performance beam; not NZ; new CA 07-06  
 NZ + Au (Mcript, PowVu capable)  
 High performance beam; not NZ; new CA 07-06  
 High performance beam; not NZ; new CA 07-06  
 ABC WA tests, FTA  
 SBS, radio tests WA FTA  
 Irdeto V2 CA, tests (GWN, WIN)  
 not currently in use  
 Tests; SBS-NDS CA, others FTA when here  
 NZ (90cm) + Australia (Only C1 svc left on NZ)  
 Australia NA only (leakage to Norfolk, New Cal)  
 Australia NA only (leakage); 9-Net x 3 widescreen  
 Arrow radio (still here), tone FTA  
 Pay-per-view movies; CA  
 Pay-per-view movies; CA  
 Pay-per-view movies; CA  
 ABC for Foxtel/Austar; previously 12.288V  
 changes September 2005  
 Austar inter, Expo FTA  
 NDS CA + Mcript; CA  
 CA, subscriptions available Australia, Norfolk  
 Sky News active; 'Help x 2' FTA  
 CA, subscriptions avail Au, Nrlrk, TVSN FTA  
 CA, subscriptions available Australia, Norfolk  
 "Home"CA, subscription available Australia, Nrlrk  
 CA, subscriptions available Australia, Norfolk  
 CA, subscription available Australia, Norfolk  
 CA, subscription available Australia, Norfolk  
 CA, subscription available Australia, Norfolk  
 + 12.420V, Au + NZ beam  
 +12.469H/Qld, 12.487H/South,  
 +12.546V, 12.581V, 12.608V, 12.644V: NZ only  
 +12.546H: NZ only  
 Australia only  
 Australia only  
 Australia only  
 Australia only  
 Australia only  
 Australia only  
 Australia only  
 +12.671V, 12.707V, 12.734V: NZ only  
 &12.286, 12.326; FTA prev. 526 V10112, A1012  
 FTA-Australia  
 CA -Australia  
 FTA V=5340, A=790 -Australia  
 June 2002-Irdeto-2 CA - Australia  
 Some FTA-Australia  
 Dateline west; also east PAS2, 3901V  
 Temporary FTA (January 2007)  
 PowVu CA  
 PowVu CA & FTA; sub available-changes 05-06  
 was PAS-2, previously 3992V; feeds FTA  
 NET25 + FTA; new PIDS April '03; reload  
 PowVu CA; ch 11 DCP-CCP bootload; audio FTA  
 PowVu/CA (some audio FTA)  
 PowVu CA & FTA (EWTN + CBS + TBN +)  
 NDS CA (6 channels); one test card occ FTA  
 Myx FTA V1960, A1920 + radio FTA  
 PowVu FTA, replaces PAS-2 svc  
 CCTV cross pole; new SR 04-06  
 PowVu CA  
 PowerVu; some audio FTA  
 PowerVu; Asian MUX; new parameters Nov '03  
 # 8 MTV China FTA V289, A290; rest CA  
 PowVu CA, WIN, ABC NT, SBS; status unknown  
 Test - may not stay permanently  
 Temp FTA; subs Aust 011-800-2270-0722  
 initially with 6 NTSC colour bars  
 Occ FTA (Chile +); BIG power reduction Nov 03  
 BBC World moved here January 2005  
 Subscriptions available; Strong Technology



| Bird        | Service          | RF/IF & Polarity   | # Program Channels | FEC       | Msym              |
|-------------|------------------|--------------------|--------------------|-----------|-------------------|
| (PAS2/169E) | Adventists.tv    | 4040/1010H         | 1                  | 2/3       | 5( 900)           |
|             | Feeds            | 3868/1182H         | 1                  | 2/3       | 6( 620)           |
|             | Feeds            | 3939/1211H         | 2 (typ NTSC)       | 2/3       | 6( 620)/(7. 498)  |
|             | Cal PowVu        | 3901/1249H         | up to 8            | 3/4       | 30( 800)          |
|             | HK bouquet       | 3850/1300H         | up to 8            | 2/3       | 24( 900)          |
|             | Korean Bqt       | 3771/1379H         | 1                  | 3/4       | 6( 510)           |
| AMC23/172E  | Various-tests    | 12. 730H           | up to 8            | 3/4       | 30( 000)          |
| I804/174E   | iPSTAR           | 12. 619H           | 1                  | 2/3       | 25( 220)          |
|             | Tests-NZ beam    | 12. 646H           | 1                  | 3/4       | 22( 418)          |
|             | RFO Poly         | 4027/1123R         | 1TV                | 3/4       | 4( 566)           |
| I701/180E   | TNTV             | 11. 060&11. 514V   | 9                  | 3/4       | 30( 000)          |
|             | TVRFO            | 11. 136V, 11. 174V | 6+TV, 3+ radio     | 3/4       | 23( 149)          |
|             | Canal+Sat        | 11. 610H           | 16TV, 1 radio      | 3/4       | 30( 000)          |
|             | PBS              | 12. 648HH          | 16TV possible      | 3/4       | 28( 066)          |
|             | TVNZ/BBC         | 4186/964RHC        | 1                  | 3/4       | 5( 632)           |
|             | TVNZ             | 4178/972RHC        | 1                  | 3/4       | 5( 632)           |
|             | AFRTS DTS        | 4175/975L          | 3 TV, 3 radio      | 2/3       | 3( 680)           |
|             | TVNZ/Aptn        | 4170/980RHC        | 1                  | 3/4       | 5( 632)           |
|             | Fiji Sky Pacific | 4095/1055LHC       | 6TV + future radio | 3/4       | 16( 505)          |
|             | Fiji Sky Pacific | 4055/1095LHC       | 7TV + future radio | 3/4       | 16( 505)          |
|             | TVNZ/feeds       | 4052/1098RHC       | 1                  | 3/4       | 5( 632)           |
|             | TVNZ feeds       | 4044/1106R         | 1                  | 3/4       | 5( 632)           |
|             | NBC to 7 Oz      | 3960/1190R         | 1                  | 7/8       | 6( 447)           |
|             | TBN Mux          | 3927/1223R         | 4TV                | 2/3       | 11( 394)          |
|             | WorldNet         | 3886/1264R         | 1TV, 37 radio      | 3/4       | 25( 000)          |
|             | Ioarana          | 3772/1378L         | 1                  | 3/4       | 4( 566)           |
|             | NASA TV          | 3854/1296R         | 1 TV               | 3/4       | 2( 000)           |
|             | TVNZ             | 3846/1304R         | 1                  | 3/4       | 5( 632)           |
|             | NBA (Barker) Ch  | 3803/1347R         | 1                  | 3/4       | 6( 111)           |
|             | USA feeds        | 3749/1401R         | 4?                 | ?         | 26( 400)          |
| NSS-5/177W  | Pacific IP Data  | 3763/1387R         | none-data          | 3/4       | 27( 500)          |
|             | RFO/Tempo        | 3920/1230R         | 1                  | 3/4       | 2( 893)           |
|             | Wallis/Futuna    | 3922/1228L         | 1                  | 3/4       | 2( 895)           |
|             | BYU-TV           | 4185/965R          | 1TV, 20+ audio     | 1/2       | 6( 525)           |
|             | Australia Temp.  | 12. 522V           | 8 SCPC             | 7/8 & 5/6 | 14. 294 & 12. 600 |
|             | iPSTAR Tests     | 12. 691V           | 8 TV               | 5/6       | 17( 600)          |

| Receivers and Errata                                   |
|--------------------------------------------------------|
| New December 2003; 24/7 "Hope Chs."                    |
| FTA (occ sport); also try 3863.Sr.100                  |
| FTA-typ NTSC-occ sport, live Shuttle                   |
| PowVu CA + FTA(includes BBC-W 05-05)                   |
| was 4148Vt; some FTA                                   |
| Korean MUX, reload 12-04; new Sr                       |
| Testing on NZ/East Australia beam                      |
| Tests, late May start; also 12. 646H                   |
| Testing possible data links; June 2003                 |
| SE spot beam; was 4027LHC                              |
| east spot; 10TV + r each, vertical pol.                |
| FTA 11.136 Tahitian beam, 11.174 west beam; 12/04      |
| 1+ FTA, MediaGd "2"; + 10.975 weaker                   |
| Testing Fiji region pay-TV (MDS) package (Oct '04)     |
| DMV/NTL early vers. occ feeds, typ ca                  |
| DMV/NTL early vers., occ feeds, typ ca                 |
| 'DTS Direct to Sailors; audio previously FTA - gone    |
| DMV/NTL early vers. occ feeds, typically ca            |
| Nagravision CA (> Feb 1, 2005) New PIDS                |
| All now (including Fiji 1) CA; 7 Feb, 2005)            |
| DMV/NTL early vers.,occ feeds, typ ca                  |
| SCPC, mixed CA and FTA feeds                           |
| CA, Leitch encoded                                     |
| January 2006-now 4 channels, new Sr                    |
| New PIDS Dec 03 very strong NZ, Pacific                |
| FTA SCPC; East Hemi Beam-Tahiti                        |
| 24/7 live NASA - West Hemi bm (can be difficult!)      |
| SCPC, mixed CA & FTA, feeds                            |
| NBA feeds - probably CA - new Nov 2003                 |
| 16-QAM (not MPEG-2 compatible)                         |
| Data only but useful for dish alignment                |
| Wallis & Futuna Island(s) service                      |
| Outward bound W & F                                    |
| Global beam - requires sizeable dish                   |
| Aust beam: 12. 522, 538, 555, 574, 604, 621, 639 & 657 |
| CA Tests - Taiwan TV; data coming?? (NZ beam)          |

### MPEG-2 DVB Receivers: (Data here believed accurate; we assume no responsibility for correctness!)

**AV-COMM R3100.** FTA, excellent sensitivity (review SF May 1998); new version Sept. '99. AV-COMM P/L, 61-2-9939-4377.

**AV-COMM Tiny Tot.** FTA, 12Vdc operated, palm sized, low power consumption; review SF#120. Contact # above.

**Coship 3188C.** Review SF#107. Blind search FTA rcvr; works well. Phoenix Technology Group ([www.phoenixsatellite.com.au](http://www.phoenixsatellite.com.au)) (Irdeto 2 as well as FTA versions)

**Coship FTA, CA, HDD.** Review SF#143, state of art functions, blind search. Phoenix (above), Satlink NZ, fax 64-9-814-9447.

**Divitone:** "Left-handed" review SF#115; does "code key" entry. Available <http://www.satmax.ws>

**eMTech eM-100B (FTA), eM-200B (FTA + Ctx2), eM210B (FTA + 2xCI + positioner);** KanSat 61-7-5484 6246 (review SF#89)

**eM-150/Homecast.** FTA + embedded multi-format, review SF#144. Sciteq (61-8-9409-6677) and Kristal (61-7-4728 7704)

**Fortec Star Lifetime.** Two versions, both blind search, code-key programmable, one X 2 CI. Review SF#119. [www.aDigital.life.com](http://www.aDigital.life.com)

**Homecast (em-150, eM-1150, eM-2150)** series of FTA, CA, HDD state of art STBs, review SF#144. Sciteq ([www.sciteq.com.au](http://www.sciteq.com.au))

**Humax ICRI 5400 (Z).** Embedded Irdeto + 2 CAM slots; initial units had NTSC glitch, now fixed. Widely available; new software avail 04-04, SF#76.

**Humax IRCI 5410 (Z).** Adaptable version capable of holding multi-CA systems (SF#98, 99). Widely available; original importer Sciteq ([www.sciteq.com.au](http://www.sciteq.com.au)).

**Hyundai-TV/COM.** HSS100B/G (Pacific), HSS-100C (China) FTA. Different software versions; 2.26/2.27 good performers, 3.11 and those with Nokia tuners also good; later 5.0 not good.

**Hyundai HSS700.** FTA, PowerVu, SCPC/MCPC. Review SF March 1999. Kristal Electronics, 61-7-4788-8902.

**Hyundai HSS800CI.** FTA, Irdeto (with CAM) + other CA systems, PowerVu, NTSC. Kristal Electronics, above; review SF#63.

**INNOVIA IDS3088.** Review SF#111. Blind search FTA receiver. High quality IRD; available Phoenix TechnologyGroup, and Satmax (<http://www.satmax.ws>).

**ID Digital CI-24 Sensor.** New August 2003; new lower noise tuner, extra sensitivity; CI Interface slot Irdeto 1 & 2; review SF#109. Sciteq 61-8-9409-6677.

**KSF-570** FTA digital receiver, import; KSC-570 adds CI x 2 (no test or user results available). Asoft Limited, 64-4-234-1096

**KSC-N550H2** 'Premium Dual DVR' digital receiver (no test or user results available). Asoft Limited, 64 4 234 1096

**MediaStar D7.5.** New (May 00) single chip FTA; review June 2000 SF. MediaStar Comm. Int. 61-2-9618-5777 ([www.mediastar.com.au](http://www.mediastar.com.au))

**MediaStar D10.** FTA and Irdeto embedded CA. VG receiver; see review SF#96, August 2002. Contacts immediately above.

**MultiChoice (UEC) 660.** Essentially same as Australian 660, not grey market contrary to reports. Sciteq tel 61-8-9306-3738

**Nokia "d-box" (V1.7X).** European, FTA, may only be German language, capable of Dr. Overflow software. SF#95, p. 14.

**Nokia 9200/9500.** When equipped with proper software, does Aurora, originally did pay-TV services provided software has been "patched" with "Sandra" or similar program. See SF#95, p. 14, SF#96 p. 15. SatWorld 61-3-9773-9270 ([www.satworld.com.au](http://www.satworld.com.au))

**Pace DGT400/DVR500.** Originally Galaxy (Now Foxtel+Austar). Irdeto, some FTA with difficulty (Foxtel Australia 1300-360818). UECs replaced.

**Pace "Worldbox" (DSR-620 in NZ).** Non-DVB compliant NDS CA including Sky NZ, no FTA; similar "Zenith" version (see SF#115, p. 15).

**Phoenix 111, 222, 333** models (no longer produced): Service, backup - Phoenix Technology Group 61 3 9553 3399; [www.phoenixsatellite.com.au](http://www.phoenixsatellite.com.au)

**Pioneer TS4.** Mediaguard CA (no FTA), embedded Msym, FEC, only for Canal+Satellite (AntenneCal ++687-43.81.56)

**PowerVu (D9223, 9225, 9234).** Non-DVB compliant MPEG-2 unless loaded with software through ESPN Boot Loader (see below). Primarily sold for proprietary CA (NHK, CMT etc). For service only - call Scientific Atlanta 61-2-9452-3388. For revision model D9850, see Scientific Atlanta (below).

**Prosat 2102S.** FTA SCPC/MCPC, NTSC/PAL, SCART + RCA. Sciteq 61-8-9306-3738.

**SatCruiser DSR-101.** FTA SCPC/MCPC, PowVu, NTSC/PAL. (Skyvision Australia 61-3-9888-7491, Telsat 64-6-356-2749); no longer available.)

**SatCruiser DSR-201P.** FTA SCPC/MCPC, PowVu, NTSC/PAL, analogue, positioner - (Skyvision - see above); no longer available.

**SATWORK ST3618.** Blind search FTA receiver. Fast search, problems, especially in "memory-filing" system; review SF#111. Available DMSi at [tim@dmsiusa.com](mailto:tim@dmsiusa.com).

**SATWORK ST3688.** Blind search, 3000+ ch memory, multi-format RF modulator; improved version 3618. Review SF#113; available DMSi (above).

Scientific Atlanta D9223, D9234, D9225; Orig. PowerVu, superceded Dec 2003 by D9850. Commercial receiver, available TVO 61-2-9281-4481, John Martin

**Strong Technologies SRT2620.** SCPC, MCPC FTA, exc sensitivity, ease use, programming. Review SF#91 (ph. below).

**Strong SRT 4600.** SCPC, MCPC, PowerVu; exc graphics, ease of use, review SF#64. Strong Technologies 61-3-8795-7990.

**Strong 4800.** SCPC, MCPC, embedded Irdeto+ CAM slots, does code-key with additional software, Aurora. Strong Technologies 61-3-8795-7990.

**Strong 4800 II.** SCPC, MCPC CAM slots x 2 for Aurora +, Zee, Canal +, code key with additional software. Strong Technologies (above); review SF#103.

**Strong 4890.** SCPC, MCPC, 30Gb PVR, 2 CAM slots, DiSEqC 1.0, 1.2 (review SF#84), does code key with additional software; Strong Technologies, # above.

**UEC Atlas/Titan (1000).** New July 2003, replacing DGT400 for Austar. No SCART, L-band loop; also available Rural Electronics 61-2-6361 3636.

**UEC642.** Designed for Aurora (Irdeto), approved by Optus; w/new software, C-band FTA; faulty P/S. Norsat 61-8-9451-8300.

**UEC660.** Upgraded UEC642, used by Sky Racing Aust., Foxtel, limited FTA. (Nationwide - 61-7-3252-2947); P/S problems.

**UEC700/720.** Single chip Irdeto built-in design for Foxtel; unfriendly for FTA. Power supply problems, seldom sold to consumers; propensity to fall off back of trucks.

**"X" Digital.** When modified with "aftermarket" Internet software, does Aurora and other V-1 CA without card; review SF#119. Strong Technologies (61-3-8795-7990).

**Zinwell ZMX-7500.** Approved NZ Freeview, through authorised dealers; review SF#150; some unresolved technical issues as of June 2007.

#### Accessories:

**Aurora smart cards.** MCRYPT (Irdeto V2) cards now available (Jan 2005), Sciteq 61-8-9409-6677.

**PowerVu Software Upgrade:** PAS-8, 4020/1130Hz, Sr 26.470, 3/4; pgm ch 11 and follow instructions (do not leave early!)

**PowerVu (Pacific) repair service:** Cable & Sat Svcs, Darius West, 61-2-9792-1421 (Email [darius@cases.net.au](mailto:darius@cases.net.au))



# WITH THE OBSERVERS

## AT PRESS DEADLINE

Possible new UBI transponder, B3? Try 12.300H (centre frequency) where carrier testing, no loading parameters at press-time but likely to be Sr 22.500, 3/4 to match other six UBI packages. Why? UBI has simply outgrown existing available space.

**ApStar 6/134E:** Plenty of targets here, C-band, 2+m dish size in NZ and Australia. Try 3540V, 3758H, 3808V, 3849H, 3868H, 3886V, 3893V, 3900V, 3907H, and 4045H + ancient analogue 3860V (CCTV1). Most frequencies are regional Chinese, many with loads of extra audio services.

**AsiaSat 4/122E:** Plenty here now FTA - try 3820V/27.500, 3/4; 3940V/27.500, 3/4 (Golf V 521, A 740); 4100V/27.500, 3/4.

**InSat 4B/93.5E:** While footprint maps are unofficial, this Ku-only 12 transponder bird is now on station with a chance observers with suitable Ku band dishes in NT and WA might locate the services. Try scanning 10.900-11.600, in particular 11.570V, Sr 27.500, 3/4.

**NSS-5/177W:** "Tele Wallis & Futuna is on 3922LHC, FTA, Sr 2.895." (DE)

**Optus B3/152E:** "Globecast has added 'Press TV' to T13/12.563H, downlinked from As2. This should become a 24 news channel from Iran although in early June only a looped promo appears. It has been running on VPID 1960, APID 1920; POLSAT 2 used to be here, currently gone. On the same transponder, US origin 'Inspiration' (one of the many Baptist variants) has now moved to T7 (was originally on T13 and T7); 12.657V, V 505, A 580. On T7 as well, the radio service TSR is 'Turkish' but only loads as a TV channel (A 1826). Also, TRT FM (A 1822) has been changed to 'Radio-2'; a TRT radio on UBI is CA and they may or may not be the same service. Also, 'Vietnamese Radio' has gone to CA, Irdeto 2. On occasion, 'JCTV'; and 'Smile of a Child' (TBN) have improperly carried the same programming material - often followed with an announcement 'apology' for the error. (Editor's note: Accidents happen - during late April a tech cross strapped a porno channel to the Disney Channel feed for tens of minutes!) On T5/12.525V Hungarian 'Duna' has been FTA (formerly CA); V 2665, A2625. In the same vein, 'Tamil TV-Tharisanam's 2 channels have been more FTA than CA; 'Deepam TV' is FTA early June, 'TTV' CA. 'Big Brother' SCPC feeds have been back, feeding their Gold Coast site to Network Ten on 12.555V/Sr 6.670, 3/4 when not in use for TVN feeds, otherwise 12.400H, 6.670, 3/4. These feeds are FTA and the 12,555 reaches New Zealand where Kiwis can be excused when watching in assuming all Australians are idiots!" (IF, QLD) "On the UBI transponders B3, 'Dubia-Sport' (V 521, A 649 is on T11/upper, 12.452H but CA. On the same transponder (V 513, A 646) a new Iraqi channel ('BAGD') and EPG listed as 'Al Baghdadia' which unfortunately is also CA -

it would be an interesting 'public service' of UBI to allow all of us to see what the real coverage is from within the country rather than the daily 14 second sound bytes on local networks. Another UBI strategic change of heart: A channel (V 524, A 652) earmarked for 'pay tv' has now become 'ITN' which stands for 'Italian Television Network Australia'. This package was originally a part of the ill-fated 'AMTV' (Australian Multicultural TV) which had been on Globecast's T13. UBI's 'ITN' is at least initially FTA but so far it is merely airing what may be a restricted bandwidth feed from Italy of 'Telepace' which is a Roman Catholic channel - yes, at one point months ago 'ITN' was on Globecast T13 in good quality. Still on 12.452H, 'MTV' / Music Television from Serbia has stopped and was relabelled as 'Ch 87' - not presently in use. Finally for this transponder, UBI has added 'SAMA' / Sama Dubai which is a movie channel in Arabic V523, A 651; CA." (AI, NSW) 'Tele Radio' on 12.563H (Globecast) has left the air. (DC).

**Optus C1/156E:** "On T14/12.438H, Optus has added 'Ch 998 Modem Test App' with two PIDs; V 1201 running at only 285 Kbit/s and data 3225 at 450 kbit/s. On T11/12.305H, 'EXPO' the FTA infomercial service grew from 4:3 to 16:9 (V 1031, A 1032) but most of the raw material appears as 4:3 - a comparison, check the TVSN (T15/12.478H) programming (FTA) is usually true 16:9. A name change - National Geographic on 12.638, Sr 27.800, is now 'National Geographic Adventure.'" (IF, Qld) "T6/12.527V, Sr 30.000 Aurora - Optus SMA BUS6 and BUS7 have been broadcasting what appears to be a Melbourne based Australian Italian radio service ('Radio Italia'). I seem to recall this was once available on Austar/Foxtel (not currently)." (NS, Victoria)

**Intelsat 8(PAS-8)/166E:** "Bethel TV is FTA 12.726H, ERI TV has replaced AssyriaSat, Phoenix InfoNews has started 12.686H FTA along with Phoenix Chinese. Al-Jazeera English (News) and DW-TV have left 12.526H and OUT TV + SBTN are gone from 12.286H. On C-band - TFC Asia-Pacific on 3880V is FTA but unlikely to stay that way. Try 28.700, 5/6 for FTA Knowledge Channel (V 1060, A 1020)." (Morgan)

**Soapbox:** "Telstra (Australia) now promoting '12 Foxtel TV channels on your mobile handset - \$12 a month'. Included are Discovery, CNN, Fashion, NTV, Disney, Fox 8, Fox Sports, Comedy Channel, E!, Union, Sky News (headlines) and Sky Business - all on a Samsung flip top model. There are limitations - a maximum of 15 minutes per viewing session - 200 minutes per month (13 viewing sessions)." (IF, Qld.) "So how do we encourage satellite designers to include HDMI

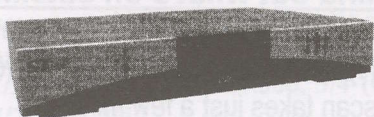
**WITH THE OBSERVERS:** Reports of new programmers, changes in established programming sources are encouraged from readers throughout the Pacific and Asian regions. Information shared here is an important tool in our ever expanding satellite TV universe. **Photos of yourself, your equipment** or off-air photos taken from your TV screen are welcomed. TV screen photos: If PAL or SECAM, set camera to f3.5-f5 at 1/15th second with ASA 100 film; for NTSC, change shutter speed to 1/30th. Use no flash, set camera on tripod or hold steady. Alternately submit any VHS speed, format reception directly to SatFACTS and we will photograph for you. Deadline for July 15th issue: July 4th by mail or 5PM NZT July 5th if by fax to 64-9-406-1083 or Email skyking@clear.net.nz.



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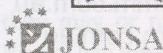
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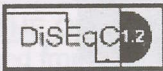
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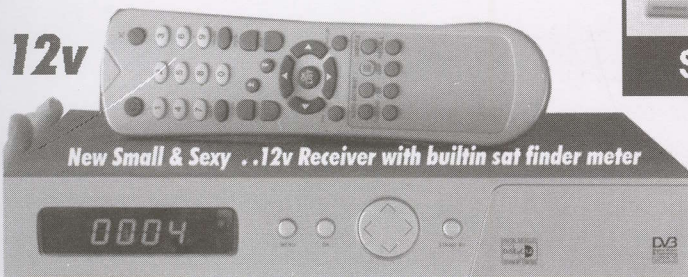
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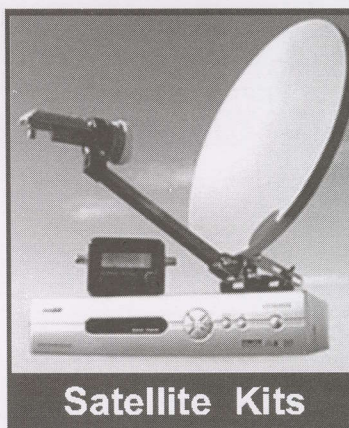
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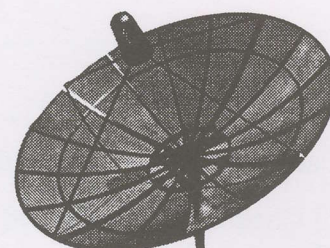
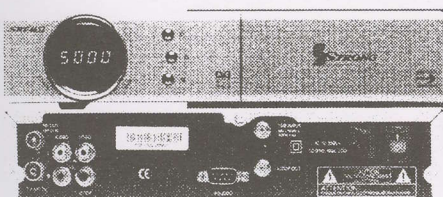
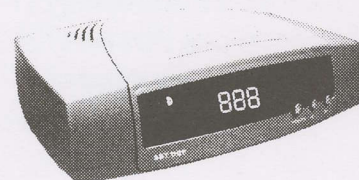
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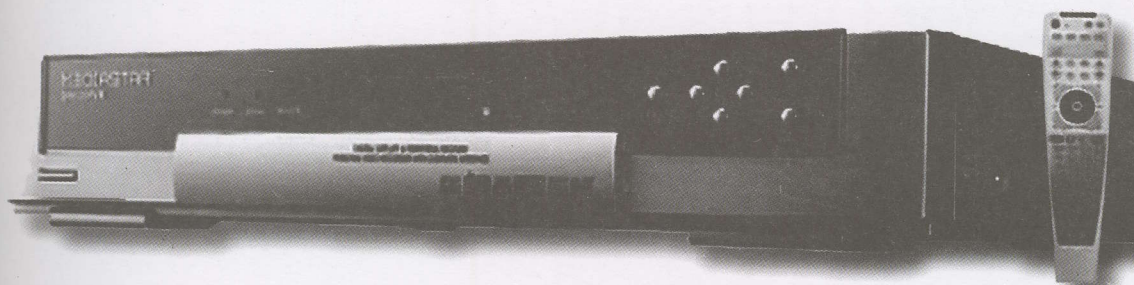
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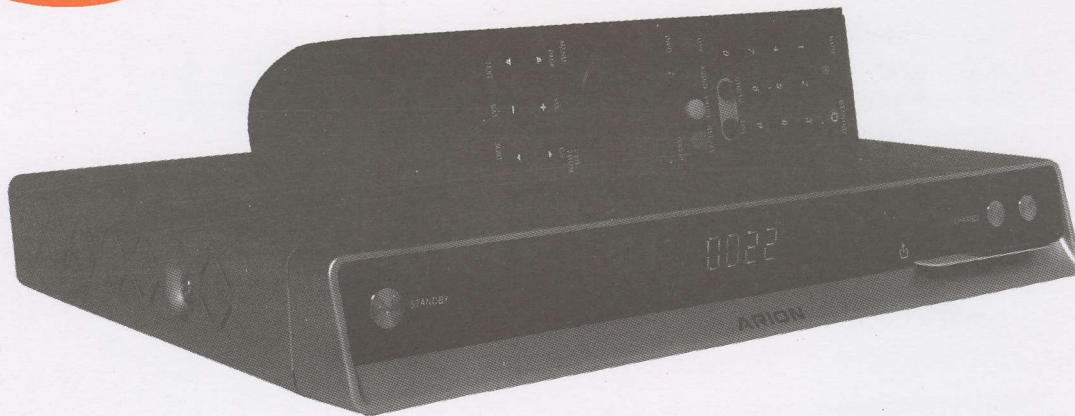
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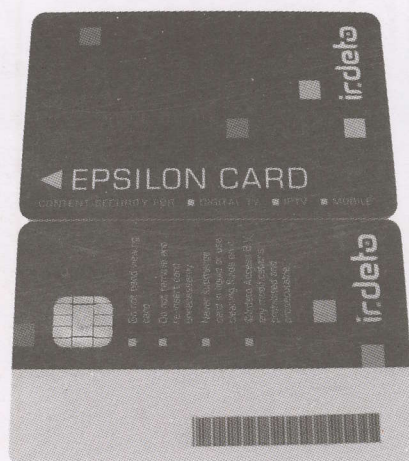


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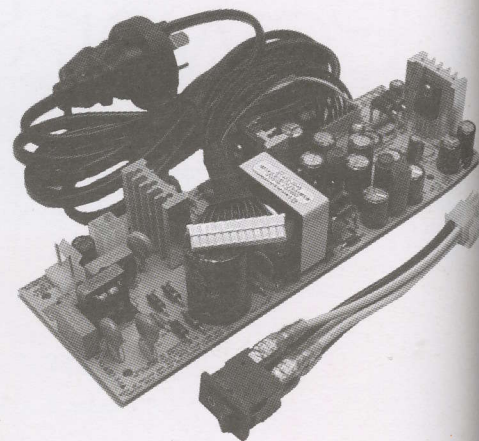
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